VOL. I.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, [illegible] 1912

No. [illegible] 246

DOWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

MINNESOTA MOLINE PLOW COMPANY ET AL.

No. [illegible] 247

DOWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

ERNEST F. SMITH AND LUFFO W. SIMMER.

ON WRITS OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE EIGHTH CIRCUIT.

PETITIONS FOR CERTIORARI FILED JANUARY 27, 1912.
WRITS OF CERTIORARI AND RETURNS FILED APRIL 15, 1912.

(22,496 and 22,497.)

Vol. 1

TRANSCRIPTS OF RECORDS

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1921

No. 121

MINNESOTA MOLINE PLOW COMPANY, ET AL.,

vs.

[illegible]

[illegible]

PETITIONS FOR CERTIORARI FILED JANUARY 27, 1922.

WRITS OF CERTIORARI AND RETURNS FILED APRIL 12, 1922.

(22,196 and 22,197)

(22,496 and 22,497.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1911.

No. 494.

DOWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

MINNESOTA MOLINE PLOW COMPANY ET AL.

No. 495.

DOWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

ERNEST F. SMITH AND LUPPO W. ZIMMER.

ON WRITS OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE EIGHTH CIRCUIT.

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1 United States Circuit Court, District of Minnesota,
Fourth Division.

The Dowagiac Manufacturing Company, Complainant,
No. 404. vs. In Equity.
Minnesota Moline Plow Company and T. H. Martin,
Defendants.

The Dowagiac Manufacturing Company, Complainant,
No. 460. vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

Pleas before the Honorable, the Judges of the Circuit Court of the United States of America, for the District of Minnesota, for the April Term, A. D. 1906 of said Court, held in the city of Minneapolis, in said District, in the year 1906.

District of Minnesota—ss.

Be It Remembered that on the 27th day of September, 1906, came George F. Hitchcock, Jr., and Sampson R. Child, Masters in the above entitled causes, and files therein their reports which are in the words and figures following, to-wit:—

UNITED STATES CIRCUIT COURT.

DISTRICT OF MINNESOTA

FOURTH DIVISION.

Dowagiac Manufacturing Company,
Complainant,

vs.

Minnesota Moline Plow Company and T. H. Martin,
Defendants.

To the honorable judges of the Circuit Court of the United States for the district of Minnesota:

The undersigned begs leave respectfully to report as follows:

That by the decree of this court in this cause made, filed and entered herein on the 4th day of January, 1902, it was, among other things, ordered and adjudged that the complainant was entitled to an accounting, and the undersigned was appointed special master to take such accounting.

Thereafter an appeal was taken to the United States Circuit Court of Appeals for the Eighth Circuit, and on December 26th, 1902, the mandate of that court was entered and filed herein modifying the decree of this court in some particulars, and as thus modified affirmed.

Thereafter and on August 4th, 1903 another decree was entered herein in conformity with said mandate, in which, among other things, it was ordered "That this cause be referred to George F. Hitchcock Jr., as Master, to take, state and report, an account of damages and profits under and in accordance with this decree; and that, for such purpose, the said Master shall have power to examine said defendants, their agents, servants, employees, and others, operating under their authority, *ore tenus*, and to examine the books of account and like records of said defendants, and to compel the attendance of witnesses before him and the production of such books for such purposes."

That the undersigned qualified and entered upon the discharge of his duties.

Stipulations as to the taking of testimony in this accounting before duly authorized notaries public, as well as before the Master, and also a stipulation as to the use of parts of the record on accounting in the Brennan and McSherry cases in this and in the Smith & Zimmer case, were entered into by the Solicitors for the respective parties and appear in the printed record of the accounting.

Under the first stipulation mentioned the testimony of certain witnesses was taken at Dowagiac, Michigan, on June 27th and 29th, 1905, before a notary public, and on July 12, 1905 certain testimony was taken before the master at his office in Minneapolis, Minnesota. On July 24th further testimony was taken before a Notary Public at Dowagiac, Michigan. On the 28th and 29th days of August, 1905 certain witnesses on behalf of the defendant were examined before the Master at Minneapolis, Minnesota, and at Fargo, North Dakota. Thereafter and on the 3rd, 4th and 5th days of October, 1905, at Minneapolis, Minnesota, and at Fargo, North Dakota, certain testimony was taken by complainant in rebuttal before the Master in this cause, and Mr. A. G. Ronald, Special Master in Chancery in the case of this complainant against Brennan & Company et al, pending in the District of Kentucky, to be used on the accounting in both cases, and at that time the testimony on the accounting in this case was closed.

By stipulation of the respective solicitors the cases against the Smith & Zimmer Company and the Minnesota Moline Plow Company were argued together before S. R. Child, Esq., Special Master in the Smith & Zimmer case, and the undersigned Master in the Moline Plow case, on the 19th and 20th days of January, 1906, Mr. Julius S. Starr appearing for the defendants in the Smith & Zimmer case, Mr. Thomas A. Banning appearing for the defendants in the Minnesota Moline case, and Mr. Fred L. Chappell appearing for the complainant in both cases.

The arguments of the solicitors for the respective parties having been concluded, the causes were submitted to the respective Masters for determination, but with leave to complainant's solicitor to file a reply brief, which was done on February 28th, 1906. On March 1st a further brief was filed by the solicitors for the defendants, and on March 10th a reply brief in the Smith & Zimmer case, and on the same

day a further brief was filed on behalf of the complainant.

Perhaps before taking up the matter of the accounting proper, it would be well that a brief history of this litigation be given, in view of the fact that a portion of the record in four different cases involving the patent in suit has been introduced on this hearing.

Some time in March in the year 1897, the exact date not appearing, the Dowagiac Manufacturing Company filed a Bill in equity in the United States Circuit Court for the Southern District of Ohio, Western Division, against the McSherry Manufacturing Company et al, for an infringement of letters patent No. 446,230, for improvement in shoe grain drills issued to Will F. Hoyt of Dowagiac, Michigan, on the 10th day of February, 1891, and afterwards assigned to the complainant company. That cause was tried in that Court and a decree entered for the complainant, holding claims 1, 2 and 3 to have been infringed, and claims 4 and 5 not, and ordering an injunction and an accounting. On appeal to the Circuit Court of Appeals for the Sixth Circuit this decree was modified so as to find the 4th and 5th claims infringed, and in all other respects the decree was affirmed. 101 Fed., 716.

On the 14th day of February, 1898, the Dowagiac Manufacturing Company filed a bill of complaint in this court against the Minnesota Moline Plow Company, et al, alleging an infringement of the same letters patent, and involving the same structure involved in the McSherry case, the defendants in this case having purchased the drills in controversy therein from the McSherry Company. After a hearing in this Court a decree was entered adjudging claims 1, 2 and 3 of the complainant's patent infringed by what is called in this case the McSherry first or "old structure," but holding that the McSherry second or so-called "new structure" did not infringe said claims, and dismissing the Bill as to the latter, but ordering an accounting as to the former. On appeal to the Circuit Court of Appeals for the Eighth Circuit the decree of this court was modified so as to hold an infringement by the McSherry second or new structure, and in all other respects affirmed; whereupon on the 4th day of August, 1903, another decree was entered in conformity with the Mandate of that court, again ordering an accounting and reference to the undersigned.

On October 21st 1899 the same complainant filed its Bill in equity in this court against Ernest F. Smith and Luppo

W. Zimmer, co-partners as Smith & Zimmer, alleging an infringement of the same letters patent. This cause was heard in this court and a decree entered for the complainant adjudging an infringement and ordering an injunction and accounting, and a reference to Mr. S. R. Child as Master, to take such accounting. This suit related to what is known as the "Peoria" drill.

The complainant also filed a Bill in equity in the United States Circuit Court for the Western District of Kentucky against Brennan & Company et al, for infringement of the same patent, the date of the commencement of this suit not exactly appearing in this record, in which a decree was entered for the complainant ordering an injunction and accounting, and a reference to Albert G. Ronald, Esq., as Special Master to take such accounting. The infringing drill in this last case is what is known as the "Kentucky."

The record in the original McSherry case was introduced in evidence and appears in the original printed record in the Minnesota Moline case and also in the Smith & Zimmer original printed record, and certain parts of the original printed record in the Smith & Zimmer case were by stipulation introduced in evidence in the Minnesota Moline case.

The matter in controversy relates to what is known to the trade as a shoe grain drill, and as the measure of profits and damages which the complainant is entitled to recover if any, and the method of arriving at the same, depend, under the decisions, upon what the scope of the Hoyt invention involved in this litigation really was, and as this question confronts us at the very threshold of this accounting, I think it would be well to see if we can arrive at a solution of that question before proceeding further. The object of the invention, as stated by the patentee in his specification, is as follows:

> "This invention relates to new and useful improvements in grain drills commonly known as 'shoe drills'; and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.
>
> The object of the invention is to provide an independent spring pressure for each of the shoes and covering-wheels of the drill, whereby the work of the drill is rendered efficient in uneven ground, and to provide means whereby said shoes and covering-

wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another."

Claims 1, 2, and 3 are as follows:

> 1. In combination with the transporting wheels and frame, the hopper, shoe, and draft-rods, the latter having a pivotal connection with the frame, the clamping plates having a pivotal connection with the draft-rods, the spring metal pressure rods attached to said plates, said rods extending rearwardly of the hopper, the forked arm coupled to said rods, and means for raising and lowering said arm, substantially as specified.
>
> 2. In combination with a frame of a grain drill, the hopper having a flange at the upper end, the shoe attached to the hopper, the curved draft-rods leading from the shoe and having a pivotal connection with the frame of the machine, a swinging head located between the upper ends of the draft-rods, spring metal rods attached to the swinging head, said rods extending back to the hopper and below the flange thereof, said spring metal rods being coupled to an arm, said arm having means for raising and lowering it, and means for locking the parts, for the purposes set forth.
>
> 3. In combination with the frame, hopper, shoe, and draft-rods, the plates pivotally attached between the upper portions of said draft-rods, said plates having the horizontal shoulders, said shoulders bearing upon the draft-rods, the spring metal rods attached to said plates and passing rearwards of and on opposite faces of the hopper, and means for applying pressure to the rear ends of said spring metal rods, for the purpose specified."

In the McSherry case, 101 Fed., 716, Judge Lurton, after a statement of the case, among other things said:

> "The patent to Hoyt was for improvements in that class of grain drills generally known as a 'shoe

drill, * * * Grain drills were old. Shoes and press wheels are elements found in other structures. The combination was regarded as sufficiently novel to justify a patent, and defendants do not deny its validity. None of the other patents which have been introduced show a mechanism which seems to combine the advantages and effectiveness of the structure of the patent. The same may be said of drills not covered by any patent, so far as the proof in this case goes. It is not always easy to point out with precision just what marks the difference between a new and successful structure and an old and less satisfactory mechanism. That Hoyt's drill is a marked improvemnt over older structures is most clear, on the evidence. Its lightness, durability, simplicity of construction and operation, seem established. Its long elastic springs give it a wide range of action over uneven surfaces. It needs few repairs. These qualities have contributed to its popularity, and brought it into extensive use. The novelty of the combination is not disputed. Its utility and success are proven facts. * * * Hoyt was not a pioneer. But his invention is clearly a meritorious one."

In the case of the Dowagiac Company against the Minnesota Moline Company, Judge Lochrern, on the hearing in this court, in his oral decision said:

"The Hoyt patent, which is owned by the complainant, is not a patent for the invention of any new device, but for a combination of what must be taken to be old devices; and even if some of the devices are new, they are not patented as such. It is only the combination of the devices that is patented, and therefore it must be regarded as if each of the devices separately was old and free to be used by any one. * * *

Now, the idea of shoe drills operated by springs, to determine the pressure into the ground of the shoe, and by reason of their flexibility to admit of the shoe being raised to pass over obstructions is an old one, as shown by various patents that are in evidence in the case; and the operation of these springs by means of levers in various ways is old.

> The peculiar construction of the Hoyt patent seems to be in the use of long, flexible springs, operated by the lever and rachet wheel, and having by means of a pivotal connection and bearings, a device to transmit pressure upon the draft-bars of the machine."

Judge Carland, delivering the opinion of the Court in the Circuit Court of Appeals in this same case, 118 Fed. 136, says:—

> "The function of the device in the Hoyt patent was to control the depth of the cut of the shoe by a regular pressure easily exerted by means of a lever, and by the same means to regulate the shoe in uneven ground, and to raise the shoe from the ground when not in use. The principle of the combination was old. The result attained old. But the means by which this principle was energized and this result attained were new."

Judge Carland then refers to the different patents wherein the principle of the Hoyt patent is disclosed, and says:

> "There were many other patents disclosing this principle, but those which have been mentioned approach nearest to the combination in suit. No one of them discloses the device or combination of Hoyt, or anything near enough to it to take his improvement out of the category of inventions and relegate it to that of mechanical skill."

Again, on page 140, Judge Carland says:

> "The essential elements of complainant's combination were (1) the spring rods, (2) their pivotal connection in front of the frame of the machine; (3) their connection in the rear to a lever, which would operate them; (4) their bearing, whereby the pressure resulting from forcing them down was communicated to the boot, and the draw-bars."

Judge Thayer, in delivering the dissenting opinion in the same case says:

"I agree with my associates that, in view of the decision by the Circuit Court of Appeals for the Sixth Circuit in the case of McSherry Mfg. Co. vs. Dowagiac Mfg. Co., 41 C. C. A. 627, 101 Fed. 716, we should resolve such doubts as arise over the question whether the McSherry Old Structure infringes Claims 1, 2, and 3 of Hoyt's patent No. 446,230, in favor of the Dowagiac Manufacturing Company, holding, on the strength of that decision and on grounds of comity that it does infringe. If the question was one of first impression, serious doubts would unavoidably arise as to whether the former structure infringed the latter, because Hoyt's patent, confessedly, does not cover a pioneer invention, but merely a new combination of old elements to accomplish a result which had previously been accomplished."

"* * * When the Hoyt patent was issued, what are termed 'shoe-drills' were in common use, and various means had been employed by the manufactures of such drills for applying pressure to the shoes, and for elevating them when the operator desired to do so. The problem involved, in constructing convenient mechanism to depress and lift the shoe, would not seem to have been difficult or beyond the reach of ordinary mechanical skill. The prior art shows various contrivances to accomplish this end, as in the Packham patent, No. 410,436, the Elam patent No. 352,512, the Carter patent, No. 284,376, and the Santrock patent, No. 263,434, in all of which patents devices are disclosed for depressing and elevating the shoe by means of a lever within reach of the operator. Hoyt was not the first person to devise means for depressing and elevating the shoe. Others have done so with ordinary success."

In the case of the Dowagiac Manufacturing Company vs. Brennan & Company, 127 Fed. 143, Judge Severens, delivering the opinion of the Court uses this language:

"Before discussing the characteristics of the defendant's structure, it will be convenient to examine

with some particularity the Hoyt invention and ascertain its character and its limitations. The objects which the inventor had in view were twofold, first, to produce means for depressing the shoes of the drill to meet the requirements of its movements when in operation upon different and uneven surfaces, and, second, to provide means for lifting the shoe and its attachments off the ground while the drill is being moved from place to place. There were in use devices for both these purposes, but they lacked the desired simplicity, convenience, and ease of management."

Then after discussing the means by which Hoyt purposed to reach these results, the Court further said:

"We think this was a highly meritorious invention, and that the simplicity of the structure devised was one of its chief merits. By means of it the shoes of the drill could be kept down to the proper depth in hard soil, each one could yield and rise on meeting an elevation in its path, or sink into a depression if that should be passed, and then resume its normal position. The same means are utilized for lifting the shoes and holding them from the ground when the drill was idle, but being moved from place to place, and, although this advantage is not mentioned by the patentee, it is easy to see that by the construction he proposes the parts involved are more securely and firmly held in their proper relations while the drill is at work, notably the upper part of the hopper, which is supported against lateral movement. Some, perhaps all, of these advantages had, in a way, been supplied by the former art; but they had not, so far as we can see, been so completely gathered together or attained in so simple and useful a way."

At page 35 of the printed record in the Minnesota Moline original case, Professor Cooley, a witness called by the complainant, said in answer to:

"XQ. 9. From the fact, Professor, that you find the single spring of the Cassopolis construction in

the Fowler & Banks suit, and the double spring of the structure in both forms of the McSherry drill to be within your opinion, embodiments of the Hoyt patent in suit, I take it for granted that you consider the essential feature of novelty of said patent to be the application of a spring, whether single or double, to the forward end of the dragbar, no matter what its attachment at that point may be, and provided there is means connected with the rear end of said spring or springs under control of a single lever for forcing the whole series of shoes into the ground under one movement of said lever, and of lifting the same out of and away from the ground by the opposite movement of said lever and for permitting the independent action of each shoe of the series in passing an obstruction. Is that correct? A. Yes, speaking generally, that is correct. The spring must, of course, be connected near the front end of the drag-bars in such manner as to afford a lever action for the spring; that is, when the spring is under tension, it is to all intents and purposes, rigidly connected to the draft-bars at the front-end. At the same time, means must be afforded at the rear end for lifting the boot and for guiding it against swaying action. The spring pressure must also be applied symetrically with respect to the plane of the draft-bars, shoe, and hopper.

XQ. 10. The features recited in your last answer I therefore take it you consider to be essential attributes of the Hoyt patent in suit. Is that correct? A. Yes, that is as I understand it."

At page 144 of the original record in the Moline Plow case will be found the testimony of Jesse W. Smith, an expert witness produced on behalf of the complainant, who, after stating that the mechanical structure set forth in the patent was what is commonly known as a "shoe drill," said at page 145:

"The distinctive features of the structure of the Hoyt patent are the mode of pressing the shoes into the ground, and the mode of pressing the wheels (pressure wheels) against the ground; and the mode of lifting the shoe and wheels out of action, and the

fact that while the pressure upon the shoe and upon its wheel are regulated by the same lever which lifts these parts out of action; the raising of the shoe does not affect the pressure of the wheel against the ground to any practical extent, while on the contrary, the raising of the wheel does not affect the pressure of the shoe against the ground to any practical extent.

Each shoe with its press wheel is held against the ground by spring pressure; and the springs which exert this pressure are of a peculiar form and arranged in a peculiar manner, which, so far as I have been able to discover, are entirely novel, very simple in construction, cheap to manufacture, very effective in their operation, have a wide range of action, and are not inclined to get out of order.

Referring to the drawings of the patent, there is shown in Fig. 1 a grain drill of the 'shoe' variety, which consists of a frame C, supported on a carrying wheel A at each end, which frame is supported in a substantially horizontal position by the pole to which the horses are attached. This frame carries the seed box D with its distributing mechanism, and a spout leading down to each of the shoes. The grain distributing mechanism has nothing to do with the structure of this patent.

The shoes are shown at E, and on the top of each, there is secured a "hopper" F, into which the grain is deposited by the grain distributing mechanism. The shoes E are secured at their forward ends to bars H, which extend upward, and are pivoted to the front cross-bar of the frame at O. The machine so far described does not differ materially from 'shoe drills' of earlier construction."

The witness then goes on to describe the spring pressure device and its connection, and also the press wheels which, as I understand, are not involved in this litigation, and says:

"The novelty in this machine, as I view it, does not reside in any particular mode of connecting the spring rods with each other or with the other parts; but consists in the spring rods so connected with the shoes as that the shoes will have a great amplitude

> of movement, while always remaining under the pressure of the spring, such pressure being controllable at the will of the operator by moving a single lever; and the springs being so formed, located and connected, as to occupy very little space and still permit all of the necessary movements called for in the practical operation of the machine in the field."

At page 151 he says:

> "The distinctive difference between the common 'shoe drill' then known and that set forth in the patent in suit consists in the 'means for applying spring pressure to the shoe.' These means comprise 'the pressure rods having their forward ends coupled to the draft rods and a lever at the rear end.' The pressure rods are the rods I, the draft-rods are the rods H, and the two are coupled together at the forward ends in such a manner as that the pressure of the springs will be communicated to the draft rods and by them communicated to the shoe."

In the syllabus in the Moline Plow case, 118 Fed., 136, appears this language:

> "Where a new combination of old elements is such that it produces a new mode of operation and a beneficial result, there may be a patentable invention. * * *
>
> "The Hoyt patent, No. 446,230, for an improvement in Grain Drills consisting of spring pressure rods and means of attaching the same, by which pressure is applied to the shoes, and they are raised from the ground, by means of a lever, was not anticipated and is valid."

The part of the syllabus in the Brennan case, 127 Fed., 143, pertinent here, is as follows:

> "The Hoyt patent, No. 446,230, for an improvement in Grain Drills, consisting of spring pressure rods operated by a lever for depressing the shoes in operation on uneven ground, and used for raising them from the ground when not in operation, is valid," etc.

I have quoted from the decisions in the various cases in which this patent has been before the Courts, to determine, if possible, what view they had taken of it; but of course in that connection it should be remembered that the questions for determination before those Courts were not the same which confront the Master here. There the questions were, first, was the Hoyt patent valid? Second, had it been infringed by the defendants? Here the question is as to the scope of the patent, and whether the invention imparted to the infringing machine its entire value as a marketable article.

It is claimed by complainant's counsel that

> "Neither this claim 1, or any other claims in question are for a spring merely; they are all combination claims reaching out and taking in substantially all the parts of a grain drill, and specify their arrangement for co-action to produce a particular result, and it is conceived that each and every one of these elements of the claim is essential. * * *
>
> So that it must be clear to the Masters that they are dealing here, not with a mere spring and attachment for a grain drill, but they are dealing with essentially a combination which takes in all the material parts of the grain drill—certainly all the parts necessary for the successful operaton of a grain drill in the northwest."

On the other hand the defendants claim that the Hoyt invention can not be held to cover the complete grain drill, but that it was for improvements in grain drills. As is said in the defendants' brief, page 3,

> "The patent does not claim that Mr. Hoyt invented an entirely new shoe grain drill, a complete article, distinct and different in all its parts from the shoe grain drills that were in use. Mr. Hoyt simply, at the most, and in the most liberal view that has been taken of his patents by the Court, invented a new and useful improved *spring pressure* device to be used *in* and as a *part of* the established shoe grain drills. Mr. Hoyt's patent is not for a shoe grain drill, *per se*, but for *improvements* upon and relating to such grain drill."

The patentee says that his invention consisted "in a certain construction and arrangement of parts," and he says that the object of this construction and arrangement of parts is "to provide independent spring pressure for each of the shoes and covering wheels of the drill," * * * "and to provide means whereby said shoes and covering wheels may be raised from the ground when the implement is not in use," etc.

It is what is called a "combination patent," the elements entering into its construction being all old, but arranged in a new combination.

It is true that the claims recite the wheels, the frame, the hopper, the shoe, and the draft-rods with pivotal connection with the frame, and of course the spring pressure device would be useless without those parts, but it seems to me it can hardly be seriously claimed that because an inventor recites in his claims every part of the machine upon which his improvement is used, that thereby his patent can be broadly construed as practically covering the whole machine. It seems to me we can not construe this patent any broader than the inventor has stated its object, and that we must construe it as merely consisting of an improved method of imparting spring pressure to the shoes and covering wheels of the old and well known shoe grain drill, and an improved method of raising the covering wheels and shoes of the drill when not in use. A valuable improvement and device, it is true, but very far, it seems to me, from a "complete combination in itself, differing from every other shoe drill," or that "Thus combined and arranged, they made a new thing, like a new chemical compound."

An examination of the testimony of the experts called by both parties in these cases will reveal the fact that practically all of it relates to the spring pressure device. And there is every reason why it should, for the spring pressure device of the Hoyt patent is the very life of this litigation. Eliminate that device and there is nothing left of the law-suit. But the shoe grain drill would still remain, substantially perfect in all its parts, except as to the combnation of the rod spring pressure device disclosed in the patent in suit. True it might not be as efficient in certain soils and under certain conditions without as it would be with the Hoyt invention, but it would still be a shoe grain drill, and useable and saleable, to a certain extent at least. It could not be said to be absolutely worthless and unsaleable, as Mr. Fowle, the Manager of the com-

plainant, himself shows (page 112 Complainant's Testimony in Rebuttal on Accounting). He says:

> "The J. S. Marsh patent, of May 14, 1861, and the McSherry patent of December 13, 1864, show constructions which were doubtless practical and were probably used in certain places under certain conditions, but could not meet the requirements of a grain drill everywhere, and it was doubtful if they did generally. The same is true of the device shown in Wheeler & Tuttle of February 5, 1867. That style of shoe drill might be used for planting wheat in the sandy soil of Michigan at the usual depth of one to three inches to cover the seed of light draft, and in nearly all respects was a good grain drill for this particular section and this particular soil. Some of that construction are still in use in this vicinity, having been used more than 30 years, but with the same form of shoe and without means for forcing it into the ground, it would be a worthless implement elsewhere. *But by substituting a modern shoe with proper spring pressure appliance the drill could be successfully used for drilling to-day in the western states.*"

The burden is on the complainant to show by reliable and satisfactory evidence that the scope of his invention is such that the profits and damages are to be calculated on the whole machine.

Garretson vs. Clark, 111 U. S., 120.

Not only has the complainant not met this burden, but the evidence conclusively shows, as I think, that the Hoyt patent was not one for a complete grain drill, but only for an improvement upon a grain drill.

PROFITS.

The complainant, as before stated, claims that the Hoyt patent is substantially for an entirely new machine; that it is a combination of the essential parts of a grain drill; that it solved the problem in the northwest, and that the entire value of the machine is properly and legally attributable to the

patented features, and that therefore he is entitled to the whole of the profits derived by the defendants from the sale of the infringing drill. Not alone the profits derived by reason of the enhanced value of the drill equipped with the Hoyt spring pressure device, but the entire profits derived from the sale of the whole machine equipped with such device.

On the other hand, it is claimed by the defendants that the invention is not for an entire grain drill, but for an improvement in grain drills and therefore the complainant is only entitled to recover the profits which the defendants have made by the use of the patented invention over and above what they would have realized by the use of any other machine or device of the shoe grain drill type that was open to them to have used, and further claim that the defendants being merchants, jobbers of agricultural implements, buying them in the open market, any shoe grain drill, even though containing patented features, if such patented features were owned by the concern manufacturing the same and selling them to defendants, was open to them as such dealers; and they were at liberty to go into the market and purchase any of the numerous grain drills then being manufactured not containing infringements on complainant's device, and that the rule is that the complainant must compare the profits which the defendants made in the sale of the drills embodying the infringing device with what they would have made if they had gone into the open market and purchased and sold non-infringing drills.

It is further claimed by the defendants that where the patented invention is less than the whole machine, as is the case here, the complainant must apportion the profits realized between the patented feature and the invention of others, patented or unpatented, unless it can show that the machine was not useable or saleable without the presence of the complainant's patented invention, and they claim that as the Hoyt patent is simply for a spring pressure device, the other parts of the drill being old, and the patents thereon having expired, the complainant should apportion the profits derived from the sale of these drills by the defendants between the patented and unpatented features.

Granting the defendants' position as to the scope of the Hoyt patent, I do not understand that the complainant disputes the rule of damages contended for by them. Both parties, as I understand, quote approvingly the rule laid down in what seems to be the leading case, Garretson vs. Clark, 111

U. S. 121, in which Mr. Justice Field, delivering the opinion of the court, says:

> "When a patent is for an improvement, and not for an entirely new machine or contrivance, the patentee must show in what particulars his improvement has added to the usefulness of the machine or contrivance. He must separate its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated. The rule on this head is aptly stated by Mr. Justice Blatchford in the Court below:
>
> 'The patentee,' he says, 'must in every case give evidence tending to separate or apportion the defendants' profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative; or he must show, by equally reliable and satisfactory evidence, that the profits and damages are to be calculated on the whole machine, for the reason that the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature.'"

The only difference between counsel, as I understand, is as to whether the case at bar comes within the former or the latter part of the above rule.

It is further claimed by the complainant that even conceding the Hoyt invention was merely an inprovement in shoe grain drills, it was of such a nature, being a special construction of shoe drill adapted for use in a restricted territory known as "The Northwest," that it solved the problem and rapidly superseded all other grain drills in that territory, and that those that were in the territory were pushed to the wall, with very few exceptions; that plaintiff has shown that it was well equipped to supply the demand, and would have supplied it entirely, had it not been for the infringing devices; that therefore this case comes within the doctrine laid down in the case of Manufacturing Company vs. Cowing, 105 U. S. 253.

That case involved an improvement in pumps for drawing off gas from oil wells and conducting the same to the furnace of the engine: The validity of the patent and the infringe-

ment were established, and it was shown that the defendant had manufactured and sold 298 pumps, containing the infringed device, at a certain profit; it was found as a fact by the Master that the plaintiff's pump virtually controlled the market, and had superseded all the other pumps then in use for pumping gas, and had driven the others out of the market, so that they could not be sold at the places where the plaintiff's pumps were sold; that the defendants went into the very market where the plaintiff's pumps had been introduced and sold, and where plaintiffs were then supplying most of their pumps, and employed the former agent of the plaintiffs to sell their pumps for them, and that, had not the defendants interferred and urged their pumps upon the market, the plaintiffs would certainly have had the whole market to themselves, and would have undoubtedly sold these 298 pumps.

In this case, Mr. Chief Justice Waite, delivering the opinion of the Court, said:

> "The rule applicable to this class of cases was well stated by Mr. Justice Strong, speaking for the whole court, in Mowry vs. Whitney, 14 Wall. 620. The subject-matter of that suit was a patent for an improvement in the process of manufacturing car wheels, and in respect to the profits resulting to an infringer from the use of the patented process, it was said, p. 651: 'The question to be determined is, what advantage did the defendant derive from using the complainant's invention over what he had in using other processes then open to the public, and adequate to enable him to obtain an equally beneficial result. The fruits of that advantage are his profits.' It does not necessarily follow from this that where the patent is for one of the constituent parts, and not for the whole of a machine, the profits are to be confined to what can be made by the manufacture and sale of the patented parts separately. If, without the improvement, a machine adapted to the same uses can be made which will be valuable in the market, and saleable, then, as was further said in that case, the inquiry is, 'what was the advantage in cost, in skill required, in convenience of operation or marketability,' gained by the use of the patented improvements? If the improvement is required to adapt the machine to a

particular use, and there is no other way open to the public of supplying the demand for that use, then it is clear the infringer has by his infringement secured the advantage of a market he would not otherwise have had, and that the fruits of this advantage are the entire profits he has made in the market. Such, we think, is this case. Pumps for all ordinary, and many extraordinary, uses were very old; but, in the new developments of business, something was wanted to take the gas from the casing of an oil well, and conduct it safely to the furnace of the engine. 'With that special purpose in view,' this inventor took the well known parts of an ordinary double action pump, changed some of them slightly in form, added a new device, and produced something which would do what was wanted. While nominally he only made an improvement in pumps, he actually made an improved pump. For ordinary uses the improvement added nothing to the value of the old pump, but for the new and special purpose in view, the old pump was useless without the improvement. The testimony shows that there was no market for pumps adapted to this particular use, except in the oil producing regions of Pennsylvania and Canada. The demand was limited, as well as local. Less than a thousand pumps actually supplied all who wanted them. But for that particular use no other pump could at the time be sold. If the appellant kept the control of its monopoly under the patent, it alone had the advantage of this market. Unless the appellees got the improved pump, they could not become competitors in that field; and just to the extent they got into the field they drove the appellant out. Through their infringement they got the advantage of selling the pumps that had upon them the patented improvement. Without it no such sales would have been effected. The fruits of the advantage they gained by their infringement were, therefore, necessarily the profits they made on the entire sale.

This is an exceptional case. A limited locality required a particular kind of pump, to be used only in that locality for a special purpose. The market was not only limited to a particular locality, but it

> was unusually limited in demand. A single manufacturer, possessing the facilities the appellant had, could easily, and with reasonable promptness, fill every order that was made. There was no other pump that could successfully compete with that controlled by the patent. Under these circumstances it is easy to see that what has been the appellee's gain in this business must necessarily have been the appellant's loss, and consequently the appellant's damages are to be measured by the appellee's profits derived from their business in that special and limited market."

Complainant's counsel cites numerous other authorities in support of this proposition, which will be considered later; but I have quoted thus extensively from the opinion in the Cowing case, because counsel seems to rely upon it as controlling here.

It seems to me it can hardly be said that the facts in the case at bar bring it within that decision. The Court expressly says that "If, without the improvement, a machine adapted to the same uses can be made which will be valuable in the market, and saleable," then the rule is "what was the advantage in the cost, in skill required, in convenience of operation or marketability gained by the use of the patented improvement." Coil spring pressure shoe drills which did not infringe the Hoyt patent could be made and were made adapted to the same uses, and sold in this same territory. True they may not have been as efficient as complainant's, although some of the witnesses testify that they were equally satisfactory, and in some instances preferable, but many of them were sold in competition with it, and still are so sold, and I do not understand the rule to be that they must be as efficient in all respects as the patented invention, if they serve the purpose, are useable and saleable.

Neither can it be said, I think, that the territory designated by the complainant as "The Northwest," can be compared to the oil producing regions of Pennsylvania and Canada, nor can it be said that the demand for shoe grain drills in this territory was "limited as well as local," in the sense in which these words are used in the Cowing case. The testimony shows that from August 1st, 1888 to August 1st, 1903, 23,594 Van Brunt shoe grain drills were manufactured and sold; that from 1889 to 1902, 9,089 Superior shoe grain

drills were manufactured and sold. These were of the coil spring variety. From 1889 to 1901, 18,326 Havana press shoe drills were manufactured and sold. Of course this is a different variety of drill, but it shows there was a varied and extensive demand for the article. During the infringing period, from 1896 to 1902, 13,838 Van Brunt, 1,456 Superior, and 7,833 Havana press drills were manufactured and sold. During the period from 1886 to 1889, 19,369 Monitor shoe drills were manufactured and sold. These were all of the coil spring pressure variety. No record is available as to the exact number of Tiger shoe drills sold, nor of the sales of the several other types of drill that were in the market more or less extensively. It is true that all these drills were not sold in the northwest, but it shows the magnitude of the business, and that the demand was neither "limited" nor "local". Counsel for defendants in the Smith Zimmer case in his reply brief states that there are 670,000 square miles embraced within what is known as "The Northwest", including the states of Wisconsin, Minnesota, the two Dakotas and Montana, and Manitoba, and Alberta, in Canada. I have looked up the number of square miles embraced in the territory composing the states of Wisconsin, Minnesota, the two Dakotas and Montana, and find that it figures up 433,900, and the testimony shows that there have been since 1888 or 1889 some ten or fifteen different varieties of shoe grain drills on the market in that territory.

It seems to me it can not be said that a single manufacturer, possessing the facilities which the complainant had in the case at bar, "could easily, and with reasonable promptness, fill every order that was made" for shoe grain drills in this Northwestern territory. It is true that Mr. Fowle states in his testimony that the complainant company has a capacity of 24,000 grain drills per annum, if the plant was worked to its full capacity. This estimated capacity of 24,000 drills per annum it seems to me is theoretical and not practical. Mr. Hoyt states that in 1899 they manufactured and sold 7,500 drills, and that seems to have been the banner year. To have increased their manufacture to more than three times that number would certainly have required a very large increase in working force, if not a reorganization of their plant. And I do not believe that Mr. Fowle, as manager of that company, in the face of the competition of the coil spring non-infringing drills, which was all the time present in this territory, and the competition of the disc drills since their introduction about

1894, would have deemed himself justified in manufacturing drills enough to have supplied this whole trade, even if there had been no infringing drills on the market. Mr. Fowle further testified that they had generally been able to supply their trade, but that in the years 1891 and 1892, and again about the years 1897 and 1898, the demand within 90 days of seeding time, January 1st and April 1st, so far exceeded the Dowagiac Company's expectations that they were unable to do so. In the very nature of things, if a large number of drills were to be manufactured in any one year, for sale during the next seeding season, it would be necessary to arrange for their manufacture early in the year preceding, that any manufacturing concern, exercising ordinary business prudence, would have attempted to manufacture drills enough to supply the entire trade, in view of the conditions existing during this period, as shown by the testimony, and the well known uncertainties of trade.

Counsel also cites in support of this proposition Crosby Steam Gauge & Valve Company vs. Consolidated Valve Company, 141 U. S. 441.

This was a case involving a patent safety valve for use on steam boilers or generators. It was a complete thing in itself to be attached to boilers or generators. The Master said in his report:

> "Eliminate this invention from the defendants' valves, and they would be commercially worthless. No substitute for this invention has been suggested to me, and I know of none which the defendants could have used in its place to have made their valves of commercial value."

While, in some respects, this case resembles the one at bar, yet I do not think it is entirely parallel. If the complainant, in that case, had claimed the entire profit on a boiler or steam generator with the infringing valve attached, it would be more nearly the case we are considering.

Tilghman vs. Proctor, 125 U. S. 136, was a case in which the patent related to a process for the treatment of fats and oils for the purpose of separating their component parts so as to render them better adapted for use in the arts. The patent was held valid for the process, that the defendants had infringed, and an accounting was ordered. The Court held that, if the defendants had gained an advantage by using

Plaintiff's invention, that advantage was the measure of profits to be accounted for. The defendants were manufacturers using the patented process in their business in treating fats and oils. Not dealers in the patented article itself. I do not see how this decision applies to the case at bar.

Philip vs. Nock, 17 Wall., 460, involved a patent for an improvement in inkstand lids, and the hinge whereby such lids are attached, and was a case at law. On appeal Mr. Justice Swayne, delivering the opinion of the Court, said:

> "In arriving at their conclusion, the profit made by the defendant and that lost by the plaintiff, are among the elements which the jury may consider. Where the infringement is confined to a part of the thing sold, the recovery must be limited accordingly. It can not be as if the entire thing were covered by the patent; or, where that is the case, as if the infringement were as large as the monopoly. * * * The plaintiff must show his damages by evidence. * * * They must be proved, and not guessed at."

It seems to me this does not support complainant's contention.

Warren vs. Keep, 155 U. S. 265.

This was a patent for certain devices and designs for base burning stoves and stove grates, and it is stated in the opinion that the grates sold by the defendant were not sold as an incident to any particular stove, but as an independent, marketable article, and the infringers must pay the entire profits realized from the sale thereof. It is difficult to see how this supports the complainant's position, or how this case is applicable to the one at bar.

Wales vs. Waterbury, 101 Fed. 126.

This was a patent for an improved lever buckle, adapted for use upon various articles of men's and women's wearing apparel. The buckle of claim 3, was especially adapted to be the fastening device of a pencil holder, a metal case or frame shaped to receive a lead pencil, and pivoted upon the base of the buckle, and forming with the buckle, a pencil carrier to be worn on the edge of the watch or side pocket of the vest. The pencil holder was also devised by the patentee

of the buckle, but he did not patent the combination. A license was granted to the defendant giving him the exclusive right to make and sell the buckle on a fixed royalty. Afterwards the license was revoked, but notwithstanding that, the defendant continued to make and sell the buckles and pencil holders. The Court held that, but for the patented feature, the article would not have been saleable, and awarded the plaintiff the entire profits. This would seem to be a case of what has been termed, in some of these decisions, a "wilful and wanton infringement."

Rose vs. Hirsh, 94 Fed., 177.

The patented article was a completed umbrella stick. The appellant alone made them; the appellees purchased the rods from appellant from 1891 to 1894, then ceased buying, and deliberately infringed the patent. The Court held that, under the peculiar circumstances of the case, and the manner in which appellant carried on his business, he was entitled to recover the difference between the cost of manufacture, and the selling price to the defendants, before the infringement commenced, this being a case of wanton infringement.

Penfield vs. Potts, 126 Fed., 475.

This was a patent for a clay distintegrator. The case was sent back to the Master, the Court saying there was evidence clearly showing that there were devices for grinding, pulverzing and even disintegrating clay, which were valuable and marketable, but,

> "if the machine as improved by Potts had a special value by reason of its adaptability for working tenacious clays, over the machines open to the infringer, and the evidence should show that no other machine was adapted to use in such clays, and that, therefore, there was no other machine which could meet the demand for use in that special class of clays, then, as was held in some of the cases we have cited, the patentee will be entitled to recover the entire profit which has been made by meeting that special market."

The Court had before cited Reed vs. Lawrence, 29 Fed., 915, Mosher vs. Joyce, 51 Fed. 441, Manufacturing Co. vs. Cowing, 105 U. S. 253, Crosby vs. Consolidated Valve Co., 141 U. S. 454.

Tuttle vs. Claflin 76 Fed., 227.

This was a patent for a machine for crimping textile materials, and came before the Court on exceptions to the Master's report. The case had been in Court for 18 years, had survived two masters, and was before one Master for more than nine years; the Court, rather than send it back, concluded that the complainant was entitled to substantial damages, and awarded him $40,000.

Piaget Novelty Co. vs. Headley et al, 123 Fed. 897.

This was a patent for a toy registering savings bank, which was held to be a pioneer patent, and that the value of the infringing banks and their saleability, was due to the registering device, irrespective of their shape. The Master allowed the complainant the entire net profits made by the defendants, and the Court sustained the Master's report.

Coddington vs. Propfe et al., 112 Fed., 1016.

This was a patent for a composition of sealing wax. The wax was sold on strings, and the question was whether the defendant must account for the profit on the wax strings, which he sold as a finished product, or only on the net value of the the wax composition used upon them, and the Court held that the string was merely a device to make it handy for use, and the defendant must account for the whole profit.

Hoke Eng. Co. vs. Schraubstaber, 53 Fed., 817.

This was a patent for an improvement in relief type production. The Master found, as a fact, that the infringing plates manufactured and sold by defendant, derived their entire commercial value from the invention covered by complainant's patent, and his report was confirmed.

National Folding Box Co. vs. Elsas et al., 86 Fed. 917.

This was a patent for a folding box. The Master found that the entire profit in the box was derived from the invention described and contained in the patent in suit. The Court, Judge Shipman, delivering the opinion, said:

> "It is ~~the~~ a case of the infringement of an entire article and of a new article of manufacture, the entire profits of which was attributable to the patented improvement. It was, when introduced into the market, a previously unknown article."

Regina Music Box Co. vs. Otto, 114 Fed., 508.

This was a patent on a music box found by the Master to be a foundation patent; that the machine was claimed as an entire organism; that it was not a patent for an improvement merely, but a patent for an entirely new class of machines, and that it was this patent that gave the whole saleable value to the machine of the defendants; that the complainant had the exclusive manufacture and sale of the instruments; that the defendants sold 35 of them, and that the complainant had the capacity to have manufactured these 35, if it had been called upon to do so, and that therefore the complainant was entitled to the whole profit made by the defendants in the sale of the infringing instruments, and the court confirmed the Master's report.

Westinghouse vs. New York Air Brake Company, 131 Fed., 607, was cited by counsel on the argument, but was reversed before the reply brief was printed, the opinion appearing in full in that brief, the latter decision being reported in 140 Fed., 545, Judge Wallace in a very exhaustive and instructive opinion on this branch of the law, among other things said:

> "Inasmuch as the complainants did not attempt to separate or apportion the defendants' profits, and their own damages between the patented and the unpatented features of the quick action triple valve, it was incumbent upon them to prove that the entire value of the defendants' quick action valve, as a marketable article, was properly and legally attributable to the patented features. What they did prove, and all they proved, was that purchasers of triple valves generally demanded some form of quick action valves, and that, except to a very limited extent, purchasers could not be found for valves without these features. This falls short of proof that only the patented form could supply the demand, and does not meet the requirements of the second branch of the rule.
>
> As has been already suggested, the cases are exceedingly rare in which the whole marketable value of a machine, or of a collection of devices, can, in reason, be attributable to a patented feature, which embraces merely an improvement in one of its

> parts. Marketable value is ordinarily the result of various conditions, independent of the normal value of the machine itself, and the contribution which the patented part gives to marketable value is necessarily dependent more or less upon these conditions. Enterprise, exploitation, and business methods in introducing and marketing the thing are generally as important a factor in its intrinsic value * * * Where that part of the thing is of such paramount importance that it really creates the value of the whole, the doctrine that the value of the monopoly of the part is measured by the marketable value of the whole may be reasonably applied, notwithstanding the marketable value of the whole may, from extraneous causes be out of all proportion to its normal value."

There was a motion for re-hearing, and on that motion the Court said:

> "Our decision went upon the ground that, notwithstanding there was satisfactory evidence in the proofs that the quick action attachment was so desirable that there would have been only a limited sale for the other parts without it, there was no satisfactory evidence that the defendant could not have made any sales without it, and none to show how many of the defendants' sales were due solely to the presence of the attachment."

In Elizabeth vs. Paving Co., 97 U. S. 126, Mr. Justice Bradley, delivering the opinion of the Court said:

> "Nicholson's pavement, as before said, was a complete combination in itself, differing from every other pavement. The parts were so correlated to each other, from bottom to top, that it required them all, put together as he put them, to make the complete whole, and to produce the desired result. * * * Thus combined, and arranged, they made a new thing, like a new chemical compound."

These are all the cases cited by complainant in support of his contention, and it is submitted that in very few, if any of

them, are the facts analogous to those of the case at bar. As was stated in the opinion in one of the cases cited, the rule is well established. The difficulty is in the application. If the complainant has brought itself within the last part of the rule laid down in Garretson vs. Clark, he is entitled to all of the profits made by the defendants on the sale of the infringing drill. Otherwise not.

It seems to me it has not done so.

It is conceded by the complainant that to escape the necessity of apportioning the profits, it is necessary, as stated in Garretson vs. Clark, that it show that the profits and damages are to be calculated on the whole machine, and he claims to have done this. He does not claim that he has introduced evidence as to any apportionment of profits as between the patented and unpatented features of the infrnging drill, and, as before stated, claims that it is not necessary, under the evidence, because this is essentially a complete device, and no apportionment is necessary.

As to the comparison of profits, it is contended by the complainant that it is shown by the evidence that there were no unpatented drills in use in the northwest, in competition with the Dowagiac; that there was nothing that appeared there that was open to the public to use, and that, therefore, complainant can not be asked to compare its drill with devices not open to the public.

The defendants contend that they are in a different position from that of one who manufactures and sells infringing devices; that they are jobbers in agricultural implements, and that the entire field of shoe drills, whether patented or not, is open to them. They put it in this language:

> "The fact that the defendants were merchants dealing in shoe drills, buying them and selling them again, renders the existence of the patents on machines, set up as standards of comparison, immaterial, as they in no way prevented such machines from being free and open to the defendants where the owners of the patents are manufacturing them, and are willing to sell them to the defendants. In such case they are as free and open to the defendants as if there were no patents on them at all, and the doctrine of comparison between the Hoyt invention and such machines applies in its fullest sense."

No authorities are cited directly on this proposition.

The complainant contends that the rule of comparison thus stated by the defendants is at fault, because it should specify the methods or things that are open, not alone to the defendants, but open to the public and of commercial value to the public, during the period of the infringement; that when that is taken into consideration, if the devices or things patented are capable of comparison in any instances, such comparison will be required, but contends that under the evidence in this case no comparison is necessary; that there was no machine of value with which complainant's machine could be compared, that was open to the public; that the question is not whether it was open to the defendant. He also contends that the merchant is held to be responsible with the manufacturer and cites the following cases in support of this proposition.

In one of them, Jennings et al vs. Dolan, and the same plaintiff vs. Kibbe, 29 Fed., 861, it was held that both defendants were liable, the one, Dolan, as a manufacturer and seller, and the other, Kibbe, as a seller for Dolan; but in that case there was a license fee, and that was taken as the measure of damages, and consequently the question of profits did not arise.

The principal point in that case was whether there could be a judgment against both Dolan, the manufacturer and seller, and Kibbe, the seller for Dolan, and the Court held that there could, but that a satisfaction of these damages by any of the defendants in either case would be a satisfaction of that amount in both cases.

There is no question in this case but that the Minnesota Moline Plow Company is liable as an infringer. That is admitted. The question is, what is the measure of complainant's recovery and how shall it be arrived at.

In Fisher et al vs. Consolidated Major Mine etc., 25 Fed. 201, a demurrer was interposed, setting up that a decree had been previously entered against the manufacturer and seller, resulting in a judgment in favor of the plaintiff. This defendant was a user and not a seller. The court overruled the demurrer on the ground that it was not alleged that the judgment in favor of the infringing manufacturer and seller had been satisfied. No comparison of profits was involved.

In the case of Babcock & Wilcox vs. Pioneer Iron Works, and Safety Steam Generator Company, 34 Fed., 338, it was held that both the manufacturer and seller, and the seller were liable jointly and severally, but, in that case there had

been a settlement and payment by the manufacturer of all damages and costs for the infringement, since the institution of the suit, but with the proviso that the settlement should not release the Safety Generator Company; but the Court held that all the damages and costs having been paid by the Iron Works Company, the plaintiff could not maintain an action against the Generator Company, and dismissed the bill. No question of profits by the seller was involved.

The case of Tilghman vs. Proctor, 125 U. S., 136, has no application to this question for the reason that it was an action against a user of the complainant's patent, and not against a dealer in machines of that character.

The case of Callaghan vs. Myers, 128 U. S., 617 is a copyright case in which the plaintiff in the Court below, Myers, brought suit against Callaghan & Company for the violation of an alleged copyright on certain Illinois reports. The Court held the copyright valid, and ordered an accounting of profits and damages. It appeared that 156 volumes of these reports which the Callaghans had manufactured and sold, afterwards again came into their possession by purchase or in some other way, and were resold by them. The Master held that as he had charged the defendants with the profits on the first sale of these volumes, the profits on the resale could not be charged against them. The Circuit Court overruled this view, and the Supreme Court sustained the Circuit Court, Mr. Justice Blatchford, who delivered the opinion, saying:

> "The sale of the volume originally prevented the purchase from the plaintiff of a lawful volume, and the sale of the same infringing volume a second time prevented the purchase from the plaintiff of another lawful volume. The plaintiff was thus twice injured by the acts of the defendants, and the sales of the second hand volume must be accounted for as if they were first sales."

It should be remembered that these reports were only obtainable of the plaintiffs or defendants, or possibly, at some second hand store. They were not dealt in generally by wholesale dealers, as are agricultural implements, and it seems to me this case has no application to the proposition under discussion.

The case of Birdsell vs. Shaliel, 112 U. S., 485, was a case

brought against two users of an infringing machine, and not against a manufacturer or seller at all.

I do not see how any of these cases bear upon the measure of profits which can be recovered against a purely jobbing concern dealing in drills and other agricultural implements. No doubt the manufacturer, the seller, whether he be a wholesale dealer or not, and the user, are liable as infringers, but the question is, what is the measure of profits or damages in regard to each. In considering this proposition, complainant's counsel, on page 29 of his reply brief, says:

> "Let us analyze the above statement, and see what it means. Does it make any difference as to my responsibility when I decide to infringe a grain drill, for instance, if I go into the market and buy some bar iron and steel, springs, lumber, castings, and other raw materials entering into the manufacture of grain drills, and then hire some men to put the machine together, paying them for it; or, whether I go to some manufacturer and say to him, 'I wish you would procure such and such materials in such and such quantities, and make me a price at which you will furnish labor and material, you also to furnish the plant for manufacture?' Or, if I go to this manufacturer, and find that in place of sorting out the materials for the manufacture of the drill, he lays out before me certain things to select from, and can be induced, for a price, to produce the infringing structure that I desire,—does it make any difference as to my responsibility?"

I should say most certainly not. That both you and the manufacturer would be liable jointly and severally as infringers, and not only that but as wanton and wilful infringers. Counsel further says on the same page:

> "Taking the other side of the proposition. The patentee whose rights are trespassed upon, goes to the manufacturer regarding the trespass, and the manufacturer says, 'No, I didn't do you any damage. A man came in here and pointed out to me that he wanted a machine of a certain character, and I produced that machine. I did not do you any damage.

> I didn't know you were on the face of the earth for that matter, so how could I touch you?'
>
> Then the farmer who uses the infringing machine comes in. He says, 'You can't touch me. When I bought this machine I never heard of you at all. The fellow who hurt you was the fellow who made the machine.' "

And, he goes on to say that when the patentee whose rights are trespassed upon comes into Court he is met by absolute proof that not any one of them is responsible for any of the infringement, and he can sit down and figure out at his leisure that somewhere he has lost. In the case supposed, it seems to me there is no question but that the manufacturer, the seller and the user are each liable. But, has not counsel lost sight of the fact that the question before the Master is not as to whether the defendant is liable at all, but as to what is the proper measure of damages in the case? In the case supposed, the manufacturer and the dealer conspired together to produce the article, and they would each be liable for profits and damages, if the evidence introduced by the complainant warranted such recovery, and, being wanton and wilful infringers, under the rule laid down in some of these cases, all doubts would be resolved against them. But how about the farmer? He would be liable, but would not the measure of plaintiff's recovery be different in regard to him, and would it not be the advantage which the farmer gained by the use of the infringing machine over what he would have done by the use of a non-infringing article? Of course the farmer in the use of the machine made no "profits" in the sense in which that word applies to a dealer.

Let us suppose, for a moment, that the Minnesota Moline Plow Co. had become insolvent, and that the complainant, as it had a right to do, had chosen to pursue its remedy against the retail dealers to whom the Minnesota Moline Plow Company had sold the McSherry drill, and had brought suit, for instance, against John Hillstead, of Fosston, Minnesota, L. O. Larson of Courtney, North Dakota, Ralph H. Stull, of Cavalier, North Dakota, or Ralph B. Welch of Minto, North Dakota, each of whom sold the McSherry and Van Brunt drills at the same time, what would have been the measure of the profits which those parties would have had to account for to the complainant?

Would it not have been the difference between the profit

which they made on the Van Brunt, and what they made on the McSherry, if the latter exceeded the former, or possibly what profit they might have made had they chosen to buy any other non-infringing drills that were on the market, which they would have had a prefect right to do? Wouldn't they, at least, have had a right to have had a comparison made between the two drills which they were actually selling, regardless of the fact of whether they were patented structures or not? It seems to me so. It seems to me their position would be different from that of a manufacturer who had manufactured, and sold an infringing device.

On the argument of this case I was strongly impressed with the position taken by the defendant they they, being merely jobbers in agricultural implements, stood in a different relation as to the measure of profits recoverable than would a manufacturer, and I have examined every authority cited by counsel for the respective parties to see if there was a case in the books where this point had been raised and passed upon. I find none.

The terms, "open to the infringer," "open to the public," and "open to the defendant," are used in the decisions, and I have examined a new work recently published by the West Publishing Company on Adjudged Words and Phrases to see if it threw any light on the subject, but could find nothing. It apparently is a new question, but it does seem to me that there is reason in the defendants' contention. It appears from the evidence, and it is a well known fact that manufacturers of agricultural machinery, very many of them at least, sell the product of their plants through jobbers; that it is either handled on commission or bought outright, and of course, a jobber is at liberty to buy of any manufacturer who owns or controls the patents on the machines he manufactures. If he buys a machine which contains an infringing device, or a machine which is ,in its entirety, an infringement on the patent of another, of course he can not escape liability on the ground that he bought it innocently, or that the manufacturer is liable, and he is not. But it does seem to me that when it comes to estimating profits in an action against him for infringement, the doctrine of comparison would apply, and that the proper comparison would be with any machine open to him to purchase; and I think I must hold that to be the rule in this case, and for that reason there should have been a comparison here.

I am also of the opinion that the Hoyt patent was simply

an improvement in shoe grain drills, and that an apportionment of profits should have been made between the patented device, and those parts of the machine that were open to the defendants and the public.

Many cases have been cited by the defendants in support of the proposition that where the patented invention is less than the whole machine, the profits must be apportioned between the patented and unpatented parts. I do not think it is necessary to review those cases, but one of them, Reed vs. Lawrence, 29 Fed., 915, it seems to me is particularly in point.

In that case Judge Severens says:

> "If the manufactured article embodies the use of other valuable features, not patented, to the complainant, but which have contributed to its market value, whether such other features are patented to any other person or not, the defendant is not liable for the use of them to the complainant. If such other features are patented to some third party, that person is the one entitled to recover for that infringement, to the extent which his patented device has contributed to the defendants' profits, but if, on the other hand, those other qualities are not patented at all, then the defendant, in common with the general public has a right to apply them to his business, and make the most he can of them. They belong to the common stock, and there is no exclusive right to them in anyone."

Citing numerous authorities:

> "Corollary to this rule, but manifestly no exception to it, is another one, which is that when the patented feature which has been infringed by the defendant is one which was the sole element of value in the thing manufactured, so that, but for it, the article would not be marketable, because not sufficiently useful for the purpose to which it was intended, the defendant is liable for the whole profits of the manufacture. Manufacturing Co. vs. Cowing, 105 U. S. 203, which case is an excellent illustration of the distinction. * * * The feature,

therefore, to which the present question of damages relates, is that of the spring tooth arching over the frame, and with its point inclining forward under the frame.

The Court is required to take judicial notice of what is commonly known in the various branches of manufacture and industry. It is required that the Court should know what is the current progress in the arts affecting the convenience and methods in common use among the people. And, because this is so, the Court is bound to know what is generally known in this branch of business; that, after, the valuable improvement introduced by the Garver patent in the manufacture of spring tooth harrows, the great advantages of this class of implements were generally recognized, and the business of manufacturing harrows with spring teeth was entered upon in various parts of the country, and by many individuals, so that the market was, and has ever since continued to be, filled with these harrows of various patterns, and all pushed upon the public with a pertinacity which has become a recognized incident of all such kinds of business. A few of them contained this feature of the Garver patent of the tooth arching over the frame, but more did not. All, however, included the feature in some form of the springing tooth, which takes the form of an arch in some portion of its conformation, and is constructed of steel to give the desired vibratory motion. And the general use of these different patterns of harrows is in promiscious distribution throughout the country where such implements are in demand. Some have the same structure of frame as the complainant's have adopted; others have applied the spring teeth to frames of other forms. A number of patents have been obtained, other than that of Garver, applicable to different devices in the building of such harrows, some of which the defendants claim to own, and to have used in the manufacture of the harrows now to be accounted for . How can it be said, in the light of all these well known facts, of which notice must be taken, and which are also shown in the main by the direct evidence in the cases, that the sales which have been

> made by the defendants, and the profits they have made, are due solely to the value contributed to the harrows by the feature of the arching tooth peculiar to the Garver patent? It seems to me that to say this is to deny the general knowledge and experience. To say that every purchaser would have bought a spring tooth harrow having the peculiarity of the Garver patent, and would have bought no other spring harrow, is impossible, without ignoring what is constantly happening throughout the country."

It seems to me a very plausible argument might be, and no doubt was made by the learned and able counsel who argued this case before the Circuit Court of Appeals, that while perhaps the patent did not cover the frame of the harrow, yet that the value of the whole machine was properly and legally attributable to the feature of the Garver patent of the tooth arching over the frame. It seems that all of the manufacturers employed the springing tooth in some form, which took the form of the arch in some part of its conformation, to give the desired vibratory motion.

Kansas City Hay Press Co. vs. Devol, 127 Fed., 363, is also a case that seems to me particularly in point.

This was a case brought originally upon six patents, which covered, as the Court said "practically the entire mechanism of the hay press in question." As to five of the patents the issues were found for the defendant. A decree was entered for complainant on one, and an accounting of profits and damages ordered. The Master reported nominal damages, and the Court, Judge Phillips, in a lengthy decision, reviews the whole doctrine of the apportionment of profits and damages. Among other things, he says:

> "The patented invention which the Court held to have been infringed by the defendants, covers a device for controlling the pitman, by actuating the plunger or traverser in the baling chamber, the effect of which is to increase the power applied to the pitman, packing the hay with greater facility and more densely. While the patented device of the complainant was an improvement in the hay press, it did not constitute an independent, complete hay press, but was used in combination with prior

patented parts, constituting a baling press, which other parts the defendants had the right to use, and which had been used for baling hay without the complainant's device, which anterior inventions the complainant used in connection with its improved device. It is conceded that with the improvement made by the complainant, the press was made more useful and efficient.

The contention of complainant's counsel is that inasmuch as the defendants employed in the construction of their machines devices free to their use, and also the complainant's device, they should be held to account for the entire profits, as for a failure to keep separate the profits derived from the use of complainant's device, invoking the equity rule that where one wrongfully mingles his goods with those of another so that they are indistinguishable from the mass, the latter is entitled to take the whole. This unquestionably is the rule in respect of the invasion of a copyright, where the wrong doer has mingled in the book matter to which a copyright does not properly extend with matter covered by the copyright, 'the two necessarily going together when the volume is sold as a unit, and it being impossible to separate the profits on the one from the profits on the other, and the lawful matter being useless without the unlawful.' The value of the book, in such case, depends entirely, 'on its completeness and integrity.'" Citing Callaghan vs. Myers, 128 U. S., 617.

"But this rule is not applicable to the case at bar."

The Court then cites the cases of Seymour vs. McCormick, Mowry vs. Whitney, Garretson vs. Clark, and numerous other cases, and says:

"This question is fully and finally answered in the case of Keystone Manufacturing Co. vs. Adams, 151 U. S., 139, in which Mr. Justice Shiras presented a summary of the decisions. That case is strikingly opposite to the one at bar. The infringing patent was for an improvement in corn shellers. Under prior inventions a marked defect in corn

shellers consisted in the choking of the chute through which the ears of corn dropped to the sheller, so wedging against each other as to clog the the sheller, occasioning delays and necessitating the employment of an additional helper in its operation. The complainant's device was intended to remedy this defect, and was largely successful. There, as here, the complete machine was made up of prior invented parts, which, in combination, made a corn sheller, but of imperfect operation, which, being supplemented with the complainant's device, constituted a better and more useful machine for shelling corn. The defendant, by using the improvement in connection with the older inventions open to him, was guilty of an infringement. The record of that case, as in this, did not show that the complainant sought to recover a license fee for the use of his device, or even that he had such established fee to constitute a basis for the ascertainment of profits, or for fixing a measure of damages. 'He relied entirely on the proposition that the amount which he was entitled to recover could be based on the profits realized by the defendant from the sale of the patented invention, and the amount of such profits he claimed to have shown by evidence tending to show what certain third parties were alleged to have made from the sale of similar devices in similar corn shelling machines.' This contention not only on account of the character of evidence relied on to ascertain the profits, but on the main proposition, was rejected by the Supreme Court, and the learned Justice summed up the established rules as follows:

'It is competent for a complainant, who has established the validity of his patent, and proved an infringement, to demand, in equity, an account of the profits actually realized by the defendant from his use of the patented device; that the burden of proof is on the plaintiff; that where the infringed device was a portion only of defendants' machine, which embraced inventions covered by patents other than that for the infringement of which the suit was brought in the absence of proof to show how much of that profit was due to such other patents,

and how much was a manufacturers profit, the complainant is entitled to nominal damages only.'

The conclusions of the Master, in this respect, are sustained by the following rulings on the Circuit, * * *" citing numerous authorities.

It therefore follows that the complainant on this branch of the case is entitled to nominal damages only.

DAMAGES.

We come now to the question of damages.

It is contended by the complainant that it is also entitled to recover damages, as distinguished from the defendants' profits, on the ground that by reason of the defendant making the sales of infringing shoe drills that it did, it has lost the profits it would have made on such sales, if made by itself, and it has introduced in evidence certain scheduels prepared by an expert accountant showing what it claims such profits would have been; that it had the capacity to have manufactured enough drills to take care of the trade it had, and also to have manufactured enough more drills to have taken care of the infringing drill trade of the defendants and the other manufacturers and dealers who were putting infringing drills on the market; that it had a capacity of 24,000 drills per annum; that the largest number of drills manufactured by it per annum was 7,500, and consequently it could have manufactured enough more of its own drills to have taken the place of all the infringing devices on the market. The testimony of Mr. Fowle, in regard to this matter (p. 31, Complainant's Record of Accounting) is, that the complainant covered the territory where the McSherry drills were sold, although there would be some towns where they would not have an agency, but that the territory was covered by the complainant's traveling men. He further states:

> " I have good reason to believe that the Dowagiac Company would have sold as many drills as they did with the infringing drills added, because it is certain that the demand existed for a shoe drill like the Dowagiac which was first introduced in that territory, and I believe that the total number of

drills could have been sold by the Dowagiac Company with no greater or even less expense than they were put to in selling what they did, because active competition greatly increased the cost of selling."

He then goes on to say that he had personally traveled through the two Dakotas and Western Minnesota, and was familiar with the territory.

On page 73 of the same record, Mr. Hoyt testifies as to the number of men employed in the plant from 1891 to 1904, each year, the smallest number being 76 and the largest 284, and states that the full yearly capacity of the plant for the production of drills had not been reached during the infringing period; that the plant had been idle part of the time; that they have an annual close-down of from 30 to 90 days for inventory, and general cleaning up purposes; that when the plant was in operation, it was not operated to its full capacity at all times, and that he thought they could have supplied the additional quantity of drills manufactured by Brennan & Company, the "Kentucky," being from 10,000 to 14,000, if occasion had required it; that he considered that when employing 250 to 300 men they were working the plant to its full capacity.

At page 119, Complainant's Rebuttal testimony, Mr. Hoyt further testified that they had never "attempted to make any arangement to operate the plant continuously for 24 hours each day, and beyond operating as we did on quarter time, have never found the necessity for trying to make such arrangements."

He further says that he thinks, "had the occasion required it, at any time during the last 20 or 25 years, in the operation of the company, that a double shift could have been arranged for," and he further says that during the infringing period the plant was not operated the year around with a single shift of men.

It further appears from the testimony that during the years 1897-8 the Dowagiac Company manufactured 5,361 drills; that they had employed January 30th, 1897, 172 men, and January 29th, 1898, 198 men. It further appears that in that year they were not able to supply the customers they already had, and whether they could, in the ordinary course of business, had the infringing drills not been on the market, supplied all that trade in addition to their own, would seem somewhat problematical.

But even if the complainant had capacity to manufacture the drills that it did manufacture, and in addition thereto enough to have supplied all the trade which went to the infringing drills, still that would not be sufficient, for to be at all sure of selling one of its drills in place of each McSherry sold by the defendant, it would have been necessary to have manufactured and sold all the drills which were sold in this territory, driving out not only the infringing drills, but the Van Brunt, the Monitor, the Superior, the Tiger, the Havana, and all the other machines sold during the infringing period. In order to be able to say as a matter of proof and mathematical calculation, or even as a reasonable presumption that this would have been the result, it would have been also necessary to have driven out the disc drills, because the testimony shows that in 1894 the manufacture of the disc drill began, and at least as early as 1898, only two years after the infringing period began, the disc drills appeared in the market, and such was their popularity and increase in sale that now the shoe drill is practically a thing of the past, although some of the dealers say that there is a reaction in its favor, and that they are regaining their trade in that article, this also showing the uncertainty and fickleness of the trade. It seems to me it can hardly be said, taking into account the conditions that we know exist in regard to the trade in agricultural implements, of which, as Judge Severens said in Reed vs. Lawrence, notice must be taken, that any manufacturer, no matter if they built the best drill ever made, would be able to demonstrate to a mathematical, or even a reasonable certainty that it would have sold certain drills to certain people had it not been for some competitor who did actually make the sale, and that they would have sold all those drills. The caprices of the trade, the push and energy of competing dealers, the personality that is such a large factor in the sale of all articles, especially agricultural machinery, all enter into this matter to such an extent that it seems to me it is simply a matter of speculation and guess work as to who would have made these sales if the Minnesota Moline Plow Company had not been in the market with the infringing device.

Counsel for complainant contends that it was the spring pressure device that sold the Dowagiac drills; that it, "solved the problem;" that that was the drill that the people wanted, and had it not been for the infringers the Dowagiac Company could have paid more attention to the coil spring drills, and put them out of business. But isn't that the merest specu-

lation? Is there any basis whatever for assuming that had the infringing drills not been in the market the trade which they secured would not have been divided, to some extent, at least, between the Van Brunt, the Tiger, the Superior, the Monitor, the Fountain City, the Hoosier, the Buckeye, the Havana and perhaps others? With the competition of such houses as the Deere & Webber Company, the Minnesota Moline Plow Company and Smith & Zimmer eliminated as to the rod, or flat spring pressure devices, and selling some other form of shoe drill, would not the field have been just as free for the coil spring structures, as it would for the Dowagiac, and wouldn't they have gone in and occupied it? Even Mr. Fowle, in his testimony, when shown the Dowagiac catalogues of 1895 and 1898 containing this statement:

> "There is no machine so poor but what some are sold; there is no machine so worthless as to have no admirers; there is no machine so good as to secure the entire trade."

And the catalogue of 1900 in which appears:

> "No machine is poor enough to have no friends, none so worthless as to find no sales; no machine is good enough to please everyone; none so perfect as to secure the entire trade,"

said:—

> "Yes, those expressions are there. As already stated, a catalogue is gotten up for the purpose of selling the goods. That is a kind of a 'catch phrase,' or phrases, and while substantially true, it does not follow that goods regardless of merit will divide the trade equally."

On the same page he further testifies:

> "XQ. 27. Have you not, in your experience, found as a matter of fact that many grain drills have been sold on talking points which related to features that in your judgment were really of little importance so far as real merits, and essentials of the drill were concerned?

A. Oh, yes, a good salesman can sell poor goods, and he of course makes use of all the talking points possible, but in the long run, true merit is what wins, and the best machine in all ways considered is what brings results ultimately."

True, the Dowagiac might have increased its trade more in proportion than the others, owing to the fact that they no doubt had one of the best if not *the* best drill on the market, but how much more? Is there any evidence in this case that would authorize the Master to say that they would have sold one fourth or one half, or three fourths or all of the drills sold by the Minnesota Moline Plow Company if they had not been in the market with the McSherry? Can the Master figure out how many more drills the complainant would have sold? I think not.

From the exhibits and evidence I have figured out the number of drills sold by the various companies in the years from 1889 to 1903 in order, if possible, to see what the condition of the shoe grain drill trade was in those years, both as regards the coil spring and rod or flat spring pressure machines.

In the complainant's original record in the Smith & Zimmer case, page 201, Mr. Hoyt states that the complainant company manufactured and sold the following number of drills in the respective years:

1890.....1200
1891.....2000
1892.....3000
1893.....1894
1894 and 1895 from 2500 to 3500 per year.
1896.....3800
1897.....4000
1898.....3500
1899.....7500
1900.....6500 to May 26th, at the time the witness was testifying.

On page 100 of Complainant's reply brief, it is stated that the sales in 1895-1896 reached.....2720
1896-1897.....2320
1897-8.....5361
1899.....5546

1900	4958	
1901	3099	
1902	2312	26,316

The Dowagiac schedule in evidence shows the following, this, as I understand, being the sales in this territory only.

1891-2	2910	
1892-3	3326	
1893-4	826	
1894-5	949	
1895-6	2450	
1896-7	1773	
1897-8	3401	
1898-9	3292	
1899-1900	3352	
1900-1901	2139	
1901-2	1601	
1902-3	1080	27,099

Mr. Fowle says in his testimony that they sold from 1 to 800 of the weight drills per annum previous to and including 1889, an dthat in 1890 they sold about 1,000 of the flat spring pressure bar drills, discontinuing that class of drill in that year.

Mr. Fowle also says at page 135 of the rebuttal testimony that in 1902-3 their sales were 1,861 shoe drills and 1,713 discs; that their sales of shoe drills for 1903-4 and 1904-5 were somewhat less, but does not think they run under 1,200 per year.

The Van Brunt list in evidence is as follows:

1889	150
1890	527
1891	1389
1892	2623
1893	2885
1894	505
1895	679
1896	1615
1897	1260
1898	2207
1899	3158
1900	2398

1901	1738	
1902	1462	
1903	998	23,594

At page 193 of the defendants record in the Smith & Zimmer case, appears a list of drills manufactured by the Monitor Manufacturing Company, as follows:

1886	57	
1887	155	
1888	385	
1889	1084	
1890	2022	
1891	2369	
1892	2101	
1893	400	
1894	373	
1895	1434	
1896	1316	
1897	1193	
1898	3303	
1899	3177	19,369

No figures are available for following years.
The Superior drill list, in evidence, shows as follows:

1899	817	
1890	1603	
1891	1369	
1892	2192	
1893	1158	
1894	237	
1895	257	
1896	153	
1897	241	
1898	306	
1899	354	
1900	188	
1901	79	
1902	135	9,089

Mr. W. J. Dean who handles the Superior drill in this territory testifies that he commenced with the Superior disc drill he thinks before 1896; that they continued to sell shoe drills,

but that there was a larger trade on the discs, especially the double discs.

Mr. Packham, page 102 Defendants' record on accounting says that the Superior disc drills were first introduced about 1894, and that since introducing the double disc drills into the northwest they have pushed that particular line; that they made a specialty of it, and that their shoe drill trade gradually decreased.

The Minnesota Moline schedule in evidence shows the following sales of the McSherry drill:

1896-7	278	
1897-8	470	
1898-9	472	
1899-1900	454	
1900-1901	277	
1901-2	118	
1902-3	2	2,071

No figures appear in the record as to the sales of the Tiger or any of the rest of the competing drills mentioned in the testimony, except the Havana, heretofore given.

Mr. Zimmer, at page 298 of the defendants record in the Smith & Zimmer case, says that he thinks the Tiger has had about the same amount of trade as the Monitor.

From an examination of these figures it would seem that the business of all the manufacturers and sellers of grain drills, including the Dowagiac, was affected, as would be expected, by the financial condition of the country after the panic of 1893, and that their business was also affected by the presidential campaign of 1896, conducted, as it was, almost entirely on financial lines. For instance, in the year 1893 there was a large sale of drills by all the manufacturers, the sales proper, of course, being made the year previous the deliveries being made in 1893 before the financial panic.

After the panic the sales of all makes of drills dropped to almost nominal figures, and remained so for two years. Then, in 1895, conditions began to improve and there were more sales for the 1896 delivery, but again, in 1897, the sales for that year being made in 1896, they were much less, showing that the buyers, manufacturers and dealers in that year were more interested in the "crime of 1873" than the manufacture, sale and purchase of drills.

Considering these figures, it seems to me it would be very

difficult for the Master to ascertain just what influence these infringements had upon the sale of the Hoyt drills. Its sale appears to have increased and decreased in about the same proportion as the coil spring devices, and they appear to have been influenced about equally by the general business conditions. No doubt the infringing devices did make a difference in the Dowagiac sales, but how is the Master to arrive at what that influence was, and which particular infringing device did the damage? It seems to me it will not do to say that as they were all joint infringers, each firm or company should be charged up with all the infringing drills sold by them, thereby asuming that had they not been in the market the Dowagiac Company would have sold all the drills sold by all the infringers. Under this evidence that would seem to be too violent a presumption to be indulged in. In fact, it is asking the Master to speculate as to something which, in the very nature of things, no one can know.

The defendants called twenty-five witnesses from different parts of North and South Dakota and Minnesota as to the reasons why they purchased the McSherry shoe drill, and they testified to various things which influenced them; some that they bought it because they handled the rest of the line of the Minnesota Moline Plow Company and wanted to get car-load freight rates; that that company had a good reputation in their respective localities; that they guaranteed their goods and stood back of their guaranties, and were considered the leading house; that they didn't buy it especially on account of the spring pressure device, but because they liked the frame, it had a good wheel, they liked the chain drive on the feed, it was a nicely gotten up drill, wasn't very heavy, rather a neat structure, had a fine shoe and a good four-horse equalizer. One bought it because the company had a good representative, and he was a beginner in the business and bought the first drill that came along; also because of the reputation of the house; some because it was a lower priced drill than others they knew of; some because they wanted to get the Moline Company's plows and other implements that were popular in their neighborhood.

Some of these witnesses handled other drills at the same time. They also testify as to the other drills that were on the market in their respective localities besides the McSherry and Dowagiac, these drills being the Van Brunt, Superior, Monitor, Hoosier, Buckeye, Rival, Peoria, Havanna Press, Tiger, Richmond, Champion, Farmer's Friend, Fountain City and Sucker State. All these drills were not in competition in

any one locality, nor all at the same time, but were there in the territory covered by the witnesses testimony during the period from about 1889 to 1903.

The defendants also called seven witnesses from Minnesota and North Dakota who testified as to why they purchased the Kentucky shoe drill; some of these witnesses purchased it for the purpose of getting the agency to sell the other goods of the Deere & Webber Company. Said that the spring pressure didn't cut any figure with them; that it was the detachable heel, the steel frame, the rigidity of the hopper or grain box, the chain feed and adjustable washer, the general appearance and general construction of the drill, the drive located under the hopper instead of at the ends, and other features which they could not remember. Some of them testified that they preferred the coil spring pressure to the rod spring, and that it gave better satisfaction; that they handled the other lines of the Deere & Webber Company and they wanted to fill up a car, and get carload rates; that the Kentucky coil spring shoe drill sold just as well as the flat spring. These witnesses also testified as to other drills that were on the market in their respective localities to about the same effect as those given above.

In rebuttal the complainant called 15 witnesses from various parts of Minnesota and North Dakota who testified as to their reasons for purchasing the Dowagiac drill; some bought it on account of the springs and feed and the shape of the shoe for running easy and clearing itself in the ground; they liked the rod spring, which looked to be better than the coil spring that the other drills were using; some bought it on account of the general make-up of the drill, and the rod spring; that the springs would break on the other drills and the Dowagiac springs would not, and it wouldn't clog in the shoe. In selling the drills they called attention to the springs and the position of the shoe; that the coil springs would catch and would not pass over trash like the rod springs of the Dowagiac; that the Dowagiac was easier to operate than some others; covered the seed better.

Some of these witnesses also handled other drills at the same time, and testified as to the competing drills in the territory, that they were the Van Brunt & Wilkins, Kentucky, Monitor, McSherry, Havana Press, Sucker State, Superior shoe and Superior disc, Tiger, Hoosier, Fountain City and Buckeye, as in the former case not all being in competition

in any one locality, but at the different localities in which the witnesses resided, and at different times.

The complainant also called Mr. Gregg in the main case, who had resided in Minnesota since 1865, and during the past 15 years, his testimony being given in 1901, had been superintendent of the Farmers Institute in the State of Minnesota, his duties requiring him to pass over the State many times and also to visit the two Dakotas to a limited extent; had been a farmer since 1870 and now operates a farm of 500 acres; that he had studied the question of seeding machinery since that time; that, at first, they used broadcast seeders; then purchased a Buckeye hoe drill, and about 1885 purchased a Havanna Press drill which he has in use yet, but found objections to it because the shoes would load up with trash in front and when that occurred would not do good work; that that machine was extensively purchased, and became very common in the northwest; that early in the nineties he first saw the Dowagiac drill, and saw that the difficulties he had experienced with the Havana Press drill were to a great extent obviated and that the draft of the machine was much lighter. That this machine was rapidly introduced in Minnesota and gradually superseded the Havana; that the reputation of the Dowagiac is good; that it is regarded as a good and satisfactory shoe drill. He was then asked:

> "Q. 7. Do you consider that the introduction of the Dowagiac shoe drill was of any particular and special advantage to the farmers in the northwest, by saving to them in any way, or economizing labor, or increasing the yield in any way of grains sowed by it.
>
> A. I must answer that question from my personal observation. The only drill that I saw in the early nineties that met the requirements of the soil and climate of southwest Minnesota and the dry Dakotas was the Dowagiac. Others might have been made, but I did not see them. This drill was, in my judgment, the first drill that did satisfactory work in our field; with a due regard to horse-power, the perfect germination of the grain, and consequently increasing the reliability of our crop."

On cross-examination the witness stated that the only two drills he had operated on his farm were the Dowagiac and

the Havana, and that he did not consider himself qualified to give an expert opinion as to the workings of other shoe drills in the northwest territory manufactured by other concerns.

That his testimony was only from the standpoint of the farmer. That in his judgment "the first marked improvement in the seeding of our dry region was in the introduction of the Havana." That the second marked change and improvement in seeding was when he found the Dowagiac; that other machines might have been in the field but he didn't observe them; that he passed over Minnesota attending to his duties about once in 18 months; that he recognized the names of the Monitor, the Van Brunt & Wilkins, the Hoosier, the Buckeye, Superior and Tiger; that he saw those machines in the market; that after he purchased the Dowagiac he was so well satisfied that he didn't find anything else that would interest him by way of purchase or for test.

The complainant also called Mr. Swayne, its present Manager at Minneapolis, and other witnesses who testified as to the competition they met with in the sale of the Dowagiac from the McSherry and Kentucky infringing devices.

The defendants called as a witness Mr. Oscar W. Bond, of Chicago (p. 317 Defendants' Record on accounting) a solicitor of patents and expert in patent causes, and he described at great length the essential and important features which a modern and up-to-date shoe grain drill of the type of the Dowagiac, McSherry and Peoria should contain, and he was also examined on the state of the art in general.

Mr. Fowle, when called in rebuttal, said that as applied to the type of grain drills of which the Dowagiac, McSherry and others were examples, he thought the points enumerated by Mr. Bond were essential, but that such a grain drill might embody all those essential features, and still be useless in the northwest and other localities, and he testified at considerable length in regard to his view of what was essential in these respects.

The testimony of S. E. Davis in the main case of the Dowagiac Manufacturing Company vs. Smith & Zimmer is in evidence on this accounting, and he testified as to the history of the seeding machine business in the northwest; that in 1887 the Van Brunt and Davis Company manufactured and sold a shoe drill in this territory with coil spring pressure on the heel of the shoe; that they used that spring with great satisfaction and it seemed to do the work very nicely; that in 1889 they manufactured about 3,000, in 1890, 3,500, in 1891

and 1892 a little more; about 500 more than in 1890; that in about 1888 or 1889 a shoe drill manufactured by J. S. Rowell & Company was first introduced into this territory; that in the years 1888, 1889, 1890 and 1891 the following drills were competing for trade in this territory; the Monitor, Buckeye, Havana, Hoosier, Tiger, Van Brunt & Wilkins and McSherry; the first he knew of the Dowagiac machine was in 1889 or 1890; that all of the drills just mentioned were active competitors in this territory for the trade in the years 1889, 1890, 1891 and subsequent thereto.

That he thought the Monitor had been in the lead.

The testimony on this accounting and the original record comprises over 1,800 pages, besides voluminous exhibits, and of course much of it I have not touched upon at all. Many witnesses were introduced by the respective parties on various phases of the case that I do not deem it necessary to refer to.

From all the testimony it seems to me conclusive that no one feature of any shoe drill is controlling in influencing its sale. Take for instance the one consideration of car-load rates, disclosed in the testimony. This seems to be, and quite naturally, a large factor in determining the purchase of drills and other heavy agricultural implements. According to the 1905 Minneapolis Directory there were over 50 agricultural implement houses doing business in Minneapolis, of course not all handling grain drills, but many of them were, and it shows how impossible it is for any implement manufacturer to command the whole trade on any article, or wipe its competitors off the earth, no matter how good an implement he has.

It seems to me Judge Severens has summed it all up in the case of Reed vs. Lawrence, *Supra*, when he says:

> "How can it be said, in the light of all these well known facts, of which notice must be taken, and which are also shown in the main by the direct evidence in the cases, that the sales which have been made by the defendants, and the profits they have made, are due solely to the value contributed to the harrows by the feature of the arching tooth peculiar to the Garver patent? It seems to me that to say this is to deny the general knowledge and experience. To say that every purchaser would have bought a spring tooth harrow having the peculiarity of the Garver patent and would have bought no other

> spring harrow is impossible, without ignoring what is constantly happening throughout the country."

I think the language of the Court in Garretson vs. Clark, 3 Banning & A., 355, is also pertinent to this inquiry.

> "It is a weak point in the argument for plaintiff, that it assumes without sufficient evidence, that the market for the plaintiff's mop was made solely by the fact that the mop contained the improvements patented by the plaintiff's patents. This would not follow, even from the fact that the mop, with such improvements, had driven other mops out of the market. Energy, diligence, business tact, superior facilities and skill, and fortuitous circumstances, contribute largely to the success in the market of even an article which has all the superiority, in its line, that is claimed for the plaintiff's mop."

It seems to me, therefore, that the complainant on this branch of the case is only entitled to nominal damages.

I am aware that a different conclusion has been reached in the accounting in the McSherry case in the Sixth Circuit, but the evidence presented to the Master there is not before us, and we do not know what it is. Certainly it must have been widely different from the evidence in this case, because the Master states in his findings that.

> "In preparing this report, as indicated in the former report filed herein, the Master is compelled to ignore substantially all the testimony of the officers of defendant company as manifestly inaccurate. The testimony of Manager Swope is contradictory, involved, and much of it disconnected and incoherent. The testimony of Manager Eichelberger is flatly contradicted by other testimony of both Swope and Eichelberger. * * *
>
> In his final testimony taken at the very close of the original accounting, Mr. Minton admits that none of his statements were accurate."

I understand this latter statement refers to written statements as to the amount of sales of infringing machines, etc. The Master further says:

> "Thus it will be seen that the efforts of the Master to obtain correct information from the officers of defendant company, who should have been possessed of such information, and whose duty it was to furnish it, was unsuccessful."

Surely that can not be said of the defendants in this case. All their correspondence was thrown open to counsel for complainant for examination, and he introduced such parts of it as he desired, and the most that can be said of their conduct in regard to the purchase and sale of this infringing device is that they were desirous of getting a drill to compete with the Dowagiac as that was one of the leading, if not the leading drill on the market at that time.

A former manager of the defendant company, Mr. Martin, himself joined as a defendant here, who had charge of making the arrangements with the McSherry Company for the purchase and handling of their drill, was on the stand, and apparently stated the facts as he remembered them. At least I saw no evidence of any attempt at concealment or prevarication. Certainly I saw no effort on the part of the defendants or their counsel to suppress or distort any of the facts in the case.

Also, from the report in the McSherry case there seems to have been some friction between counsel for the defendant and the Master, but I am happy to say that the counsel in this case, on both sides, have conducted themselves as lawyers should, courteous to each other, to the witnesses and to the Matser, looking after the interests of their clients with zeal and ability, but all the time as gentlemen.

Judge Clark, when the McSherry case was before him on exceptions to the Master's Report, both the report and the opinion appearing in the reply brief of the complainant at page 148, said:

> "It is not necessary as against a wilful and wanton infringer that precise and mathematically exact figures should be arrived at, but it is only necessary that speculation should be avoided, and that the results should be satisfactorily approximate to the Master."

And again he says:

> "There is no reason why, as against a wanton

> infringer, the plaintiff should be compelled to lay open its books, and to educate other manufacturers, etc."

From these quotations it is very evident that Judge Clark treated the defendants in the McSherry accounting as wilful and wanton infringers, bringing the case within the rule laid down in Rose vs. Hirsch, 94 Fed., 177, in which the Court said:

> " The law is, that in cases of wanton infringement every doubt is to be resolved against the infringer."

There has been no evidence on this accounting which would warrant a finding by the Master that these defendants were wanton or wilful infringers, as that term is used in the authorities.

I think the complainant has suffered damage by these infringements, but construing the scope of this patent as I have, nuder the evidence in this case and the law in relation to recoveries in actions of this kind, I think it is entitled to nominal damages only.

I have read all the testimony, the briefs and arguments of counsel, including those filed recently, parts of them many times, have examined all the authorities cited and have given the case careful consideration, as its importance demands and am unable to arrive at any other conclusion than as above indicated.

There is no evidence in this case which would justify a finding against the defendant Martin. He occupied the position of business manager for the defendant company. There is no evidence to show that he was a stockholder in the company, or ever received any of the profits from the sale of the infringing drill. Whatever he did in the matter of their purchase or sale was the act of the defendant company.

No personal liability, either for profits or damages, exists against him.

The complainant is entitled to nominal damages as against the defendant Minnesota Moline Plow Company only, and I assess the same at the sum of One Dollar ($1.00).

(Signed) GEO. F. HITCHCOCK, JR.
Master.

Dated: Minneapolis, Minn., September 20th, A. D. 1906.

Endorsed: September 27, 1906. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

UNITED STATES CIRCUIT COURT.

DISTRICT OF MINNESOTA.

FOURTH DIVISION.

Dowagiac Manufacturing Company,
Complainant,

vs. Equity No.

Smith & Zimmer,
Defendants.

TO THE HONORABLE JUDGES OF THE CIRCUIT COURT OF THE UNITED STATES FOR THE DISTRICT OF MINNESOTA:

The undersigned, appointed as special master by this court on the 12th day of April, 1901, to "take, state and report an account of the damages and profits due from said defendants unto complainants," as "damages sustained in, or by reason of the infringement" of the patent herein involved, and the "profits, gains and savings made or realized by the defendants," respectfully submits the following report:

The evidence in this case was taken from time to time, from February, 1902, to August, 1905, mostly in the form of depositions, upon stipulation of the counsel for the respective parties. The evidence taken upon the accounting before Mr. Geo. F. Hitchcock, Jr., master in the case in this court, of this complainant against Smith & Zimmer and against Minnesota Moline Plow Co., were both submitted and argued before both masters at the same time, on the 19th and 20th days of January, 1906 Mr. Fred L. Chappell appeared and orally argued the case for complainants, Mr. Julius Starr for defendants Smith & Zimmer, and Mr. Thos. A. Banning for defendants Minnesota Moline Plow Company.

Upon the argument, the complainant and each of the defendants submitted a brief, and thereafter complainant submitted a reply brief, and additional briefs were thereafter submitted by each of the parties interested. The evidence introduced, consisted of upwards of 1,400 printed pages, and the briefs covered upwards of 450 printed pages.

The evidence shows, that the infringement complained of, was of what is known as the Hoyt patent, which is a spring with its co-ordinating parts, applied to a grain shoe drill, and particularly to the shoes:

That defendants were at the time of said infringement, jobbers in agricultural implements doing business in the City of Minneapolis:

That the infringing grain drill known as the "Peoria Drill," was manufactured by Selby, Starr & Co. of Peoria, Illinois, and that some were sold directly to defendants, and some were sold through defendants on commission. That the drills so handled by defendants, extending over the years 1897 to 1902, inclusive, aggregated 966 drills for the total sum of $57,924.75:

That the infringing drills, according to the statement of defendants and of complainant's expert, Mr. Hart, were sold to them between December, 1898, and April, 1901, and aggregated 589 drills at a total sum of $34,837.

There is no showing of the profits made by defendants upon the drills purchased by them, or upon the drills sold by them on commission, other than by showing the cost and selling price of the drills and commission received for those sold on commission.

It is the contention of complainant that the infringement related to an entire grain drill, and that the infringing device gave to the grain drills sold, their entire marketable value, and that it is entitled to all the profits it could have made on the number of drills handled by defendants, because no other unpatented drills that could supply the place of the drills sold, were open to the public to purchase. In other words, that the profits and damages it is entitled to recover, are to be calculated on the whole machine. And complainant makes no attempt to separate or apportion the defendants profits and the patentees damages, between the patented and unpatented features of the drill. Complainant clearly states its position as follows:

> "The patentee must in every case give evidence, *tending* to separate or apportion the defendant's profits and the patentee's damages, between the patented and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative: *or he must show by equally reliable and satisfactory evidence, that the profits and*

> *damages are to be calculated on the whole machine*, for the reason that the entire value of the whole machine, as a marketable article, is properly and legally attributed to the *patented feature*."
>
> "The complainant has taken the alternative of the ruling, and it is believed that the complainant has the especial right to recover the entire profits and damages under the rules and requirements as indicated by this decision."

From the evidence in this case, it seems clear to my mind, that complainant's patent is for a particular part of an existing machine, and not for an entire machine, or a new article of manufacture: that the complainants invention is not of a grain drill but of an improvement in a grain drill. Again the evidence upon this accounting, not only fails to convince me that the sole saleability of the infringing drills, arose from their possessing the infringing devices, but on the contrary the evidence satisfies my mind that the infringing attachments did not give the infringing drills their whole value as a marketable article. In my judgment not only did the spring not wholly make the saleability of the "Peoria Drill," but the evidence fails to show that complainants could or would have sold all of the drills in the place of the infringing drills that were sold.

Complainant bases its right to a recovery, upon the fact that it could have sold an equal number of drills, in place of the infringing drills. This assumption requires that Smith & Zimmer would have bought from complainant a number of drills equal to those sold by them, or would have sold no drills, a fact not only contrary to the showing in the case but contrary to common knowledge and experience. Smith & Zimmer bought and sold Peoria drills both before and after they sold the infringing drills, at practically the same price and on the same terms, as they bought and sold the infringing drills, a thing that could not have been done had the infringing devices given to the drill its entire marketable value, or even a very large per cent of its marketable value. In these days goods do not sell themselves, however meritorious, as is recognized by complainant's witness Mr. Fowle, and if it were presumed that merit would sell, then the presumption is that the disc drill, and not the Dowagiac shoe, would have been sold in place of the infringing drill.

Referring to shoe drills, the complainant states in its catalogue, "that there is no machine so poor but what some are

sold. There is no machine so worthless as to have no admirers. There is no machine so good as to secure the entire trade." Mr. Fowle, complainant's witness, makes substantially the same statement in his testimony. I think this statement fairly represents the facts as applied to the situation. It recognizes the principle from a business man's standpoint, that "marketable value is ordinarily the result of various conditions, independent of the normal value of the machine itself, and the contribution which the patented parts gives to marketable value, is necessarily dependent more or less upon these conditions," as stated by the courts. "Enterprise, exploitation, and business method in introducing and marketing the thing, are generally as important a factor as its intrinsic value," as was said by Judge Wallace in Westinghouse *vs.* Air Brake Co.

There were, according to complainant's witness, Mr. Fowle, at least six, and according to other witnesses, more than fifteen non-infringing drills being sold in competition with the Dowagiac, and it can not be said from the evidence on this point, that the Dowagiac was so much superior to many of these, that it would be sought out and b ought in place of the infringing drills. The disk drill which has superceded the Dowagiac and all other shoe drills, were then being manufactured and sold, and was then engaging the attention of the trade.

I need not consider whether the coil spring structures that were being sold in competition with the Dowagiac drills were open to the public or not. Those coil spring drills were clearly open for defendants to purchase and sell, as well as were the disk drills, and from the number sold during the infringing period, as compared with the Dowagiac, it would seem clear that the infringing drills did not displace Dowagiac drills, to the extent at least necessary to sustain complainant's contention of entire profits.

The evidence shows that there were numerous coil spring structures as well as disc drills suitable for the purpose, open for defendants to purchase. It would seem that jobbers and manufacturers are not similarly situated, as to what is open for the one to purchase and the other to manufacture.

Complainant bases its claim of entire profits upon the proposition that, "its particular structure of grain drill solved the grain drill problem in the Northwest," on the theory, as I understand it, that the Hoyt Spring forced the shoe into the

hard ground and adapted the shoe to depressions, while its flexibility permitted it to rise and clear itself from trash.

If it be true that the Hoyt Patent alone solved the problem how is it that it did not have a monopoly of the grain drill trade? How is it that numerous other non-infringing drills such as the Van Brunt & Wilkins, The Monitor, The Fountain City, The Superior, and the Tiger, could divide the trade with complainant? If the Hoyt Patent alone solved the problem, why was complainant so tardy in making the claim? I do not find that this claim was made in complainant's catalogue. In its catalogue complainant compares its drills to other drills, instead of claiming that its drills superceded all others. Its greatest claim was that its "drills and seeders are the leaders." I can not see that the Hoyt patent did solve the grain drill problem in the Northwest. It does not appear that the problem has ever been solved.

The broadcast seeder superseded hand seeding, the hoe drill superceded the broadcast seeder, the weighted shoe drill superceded the hoe drill, the spring shoe drill superceded the weighted shoe drill, and has itself been superceded by the disc drill, as complainant concedes, and yet all of these old methods of seeding are still used to some extent, and no one would say that the disc drill is final.

From 1891, the commencement of the sale of the patented drills by the Dowagiac Company, to 1903, the end of the infringing period by defendants, each of two companies at least, sold nearly as many drills in competition with the Dowagiac Co., as it sold, to say nothing of the other companies selling non-infringing drills. Complainant points to the fact of the diminishing sale of the Superior and other drills, from 1894, and the increased sale of the Dowagiac shoe drill, as evidence of the facts that its patented drill solved the seeding problem in the Northwest, and fast superceded other drills. It will be noticed that the disc drill began to be manufactured in 1894 by the Superior Drill Co., and from that time the sale of the disc drill was pushed by that company, and the shoe drill trade rapidly fell off, as was explained by Mr. Packham of that company. It is conceded that the disc drill was a much superior drill, and has now practically superceded the shoe drill.

The corn sheller case (Keystone Mfg. Co. *vs.* Adams, 151 U. S. 139), the spring tooth harrow case, (Reed *vs.* Lawrence, 29 Fed. 915), and the hay press case, (Kansas City Hay Press Co. *vs.* Devol, 127 Fed. 363), seem to me to best

illustrate the case before us, and in each of those cases, entire profits and damages were claimed but denied.

I do not attempt to refer to specific evidence that determines my conclusions, as all the facts that are necessary to consider in this case, are based upon a large amount of contradictory evidence, and a reference to specific evidence is apt to seemingly magnify the importance of the evidence referred to.

Mr. Geo. F. Hitchcock Jr., special master in the case of this complainant against Minnesota Moline Plow Company, has compiled some useful data as to machines of different makes, sold during the infringing period, and at other times, that are useful in arriving at some of the conclusions in this case. Mr. Hitchcock has also given a detailed history of the litigation of the "Hoyt Patent" in this, and other courts, and this renders it unnecesary for me to recite those facts even for convenience.

Complainant calls my attention to the fact that Judge Clark, in the case of this complainant against McSherry Manufacturing Company, involving this Hoyt Patent, sustained the report of the special master awarding entire damages, founded upon the claim that the Hoyt Patent gave the entire market value to the machine, wherein Judge Clark, in his opinion says: "I think the entire market value of the machine is due to the plaintiffs improvement or addition to any previously existing and previously used machine." I confess that the master's report in that case, and the above statement led me to spend much more time upon this case endeavoring to find evidence to support their conclusion, than I otherwise should have done. I have, however, concluded that the evidence in the McSherry case, must have differed materially from the evidence in this case, else the conclusion in that case could not have been reached. Whether that be so or not, I could not bring my mind to any such conclusion. The fact that Mr. Hitchcock, upon practically the same evidence and the same argument, working independently from myself, has come to the same conclusion, gives me added confidence in the conclusion I have reached, even though contrary to that in the McSherry case.

One with our ideas on patents naturally feels, that the patentee should be compensated for an infringement of his patent, both *because the infringer must have profited by the infringment, else he would not have infringed*, and also because the patentee is damaged thereby. One also knows

that nominal damages are no damages. However, I see no evidence that will enable me to assess more than nominal damages, against defendants.

I therefore find from the evidence, that the complainant has failed to show that defendants made or realized any profits, gains or savings by a sale of the infringing drills, and that complainant, by reason of the sale by defendants of the infringing machines, sustained damages in the sum of one dollar.

Dated: Minneapolis, Minn., September 22, 1906.

(Signed) SAMPSON R. CHILD,
Master in Chancery.

Endorsed: Filed September 27, 1906. Henry D. Lang, Clerk. By Geo. E. Hitchcock, Jr., Deputy.

65

65 And on October 25th, 1906 the following Bills of Exceptions to the said Masters' reports were filed of record in said causes, to-wit:—

UNITED STATES CIRCUIT COURT,

DISTRICT OF MINNESOTA.

FOURTH DIVISION.

Dowagiac Manufacturing Company,
Complainant,

vs.

Minnesota Moline Plow Company
and T. H. Martin,
Defendants.

EXCEPTIONS TO THE MASTER'S REPORT.

Exceptions taken by Complainant to the Report made herein by George F. Hitchcock, Jr., Special Master, to whom the cause was referred by an order of this Court, which report was filed the twenty-seventh day of September, 1906.

First Exception: The Master erred as a matter of law and fact in not finding substantially that the infringement by defendants of complainant's patented machine was open, flagrant and continuous; that defendants invaded the territory theretofore supplied by complainant, which complainant endeavored to supply by every appliance shown to the trade, and was able, willing, and anxious to supply; that defendants employed former dealers of the complainant, to canvass the same territory for it, previously canvassed for the complainant, for the purpose of selling the infringing machine, and reduced the prices established by complainant in said territory, thus compelling the complainant to increase its selling force, and to reduce its prices to meet such reductions in price, to maintain its footing in said territory.

Second Exception: The Master erred as a matter of law and fact in not finding that it was the feature of the patent in suit that made defendants' infringing machine saleable, so that the entire profits complainant might have made upon the infringing machines so sold by defendants are due com-

plainant as damages herein; that complainant has proved that the sales of defendants' machines were entirely due to the patented features thereof, and complainant is therefore entitled to recover the entire profits and damages derived from the sale of the entire machines, and there is no occasion to apportion profits and damages between the patented and unpatented features of the machines, further than as has been done by complainant.

Third Exception: The Master erred as a matter of law and fact in not finding that the defendants' gains and profit as appears from the schedules of Mr. Hart, derived from the manufacture and sale of infringing machines during the period of said infringement, after making all legal deductions, amounts to substantially Eleven Thousand Nine Hundred Fifty-Two and Ninety-Two One Hundredths Dollars ($11,952.92), the same being subject to scrutiny and any corrections ~~of errors~~ in computation, should any be found.

Fourth Exception: The Master erred as a matter of law and fact in not finding that the damages sustained by complainant by reason of the sale of said infringed machines by defendants, were the amount of the profits which complainant might have made on the infringing machines that were made and sold by the defendants which complainant was equipped to make and sell and could have made and sold but for the unlawful competition of the defendants, that is to say, on 2,071 machines so made and sold at a profit of $37,227.78, these figures being subject to any errors in computation that may be found.

Fifth Exception: The Master erred as a matter of law and fact in not finding that to the amount found in Paragraph 4, should be added a loss to the complainant resulting from the fact that had it marketed said increased number of machines, certain expenses as of administration, operating and selling, would not have been proportionately or materially increased, so that the saving to ~~the~~ complainant in that respect would have amounted to $17,101.605, making the total recovery $54,329.38.

In reaching the amounts herein stated, there has been eliminated the saving to complainant by the use of certain patented features as the Fowle patent, 411,141, and the two Hoyt patents 448,861 and 492,302, aggregating a saving of 1.8%

per shoe, which on 39,111 shoes amounts to $703.998. This elimination was made because said patented improvements, while in no way modifying the price of the machines or affecting its sale, resulted in a saving to complainant of that amount in the cost of manufacture, which is the basis of this computation.

Sixth Exception: The Master erred in not recommending the allowance to the Complainant of all sums that it has paid out for expert service, including the services of Mr. McVicker of the Safeguard Account Company, Mr. Hart, of Hart Brothers, Tibbits Herrion & Co.

Seventh Exception: The Master erred in finding for the Complainant in nominal damages, whereas, said Master should have found for Complainant in the substantial sum amounting to not less than $54,246.30, or thereabouts, of which $17,091.61 can be classed as overhead expenses and $11,952.92 as Defendants' actual profit.

Eighth Exception: The Master erred in construing the testimony of Professor Cooley, as he did at p. 8 of his report, to mean that the claims were to details and not to entire combinations.

Ninth Exception: The Master erred in his construction of the testimony of Jesse M. Smith, as indicated at p. 9 of his report, in that he attempts to ascribe the invention to a mere detail and not to an entire combination.

Tenth Exception: The Master erred, as indicated at p. 11 of his report, in considering merely the objects of the invention and not taking into consideration that the invention was claimed as a combination, and further that the combination embraced substantially all parts of a grain drill, the parts co-acting and operating together much the same as the elements which enter into a new chemical compound, as fully appears from claims 1, 2, and 3 of the said patent.

Eleventh Exception: The Master erred in construing the testimony of Charles L. Fowle, as he has done on pp. 11 and 12 of his report, the Master considering only a part of Mr. Fowle's testimony and not the whole.

Twelfth Exception: The Master erred in his application of the rule of law as indicated in the case of Garretson vs. Clark, 111 U. S., 120, in consideration of the matter appearing on pp. 13 and 14 of the record.

Thirteenth Exception: The Master erred in applying the rule of law as indicated in Manufacturing Co. vs. Cowing, 105 U. S., 253, as discussed on the typewritten page 14 of his report.

Fourteenth Exception: The Master erred in taking into consideration, or insisting that the Complainant should take into consideration, the patented coil spring structure, spring pressure shoe drills, as indicated on pp. 16 and 17 of his report.

Fifteenth Exception: The Master erred in refusing to hold that the territory designated as "The Northwest" was limited as well as local when the entire wheat-growing area of the world is taken into consideration, or for that matter, the entire wheat-growing area of the United States.

Sixteenth Exception: The Master erred in taking into consideration in this matter the Van Brunt Drill, the Havana Drill, the Superior Drill, the Tiger Drill, or any of the other shoe drills which he has chosen to consider , because by the record it appears that they are all patented drills.

Seventeenth Exception: The Master erred in holding that the Complainant's Company could not supply the demand for these grain drills, because it is the undisputed testimony in the case that they could. The testimony shows that they could not only supply the demand for the infringing drills, but that they could have supplied the demand for every grain drill needed in this territory, to which reference has been made as "The Northwest." The Master nor any one else has the right to disregard the undisputed statements in the evidence of Mr. Hoyt and Mr. Fowle as to the capacity of the Dowagiac plant.

Eighteenth Exception: The Master erred in applying the rule of law as laid down in the following cases specifically considered by him, viz.,—

Crosby Steam Gauge & Valve Co., vs. Consolidated Valve Co., 141 U. S., 441;

Tilghman vs. Proctor, 125 U. S., 136;
Philip vs. Nock, 17 Wall, 460;
Warren vs. Keep, 155 U. S., 265;
Wales vs. Waterbury, 101 Fed., 126;
Rose vs. Hirsh, 94 Fed., 177;
Penfield vs. Potts, 126 Fed., 475;
Reed vs. Lawrence, 29 Fed., 915;
Mosher vs. Joyce, 51 Fed., 441;
Tuttle vs. Claflin, 76 Fed., 227;
Piaget Novelty Company vs. Headley et al, 123 Fed., 897;
Coddington vs. Propfe et al, 112 Fed., 1016;
Hoke Eng. Co. vs. Schraubstaber, 53 Fed., 817;
National Folding Book Co. vs. Elsas et al, 86 Fed., 917;
Regina Music Box Co. vs Otto, 114 Fed., 508;
Westinghouse vs. Air Brake Company, 131 Fed., 607;
Elizabeth vs. Pavement Company, 97 U. S., 126.

The Master should have held that the complainant had complied with the rule of law and had shown that it was entitled to recover the entire profits and the entire damages and that the proper measure for such damages was what the Complainant would have made had it made the sales made by the defendant and that certainly the complainant would have made an equal number or more.

Nineteenth Exception: The Master erred in holding that patented drills, which the jobber could have purchased, were proper to be taken into consideration in the estimate of the profits and damages in this case, because certainly the jobber handling the goods is just as culpable as the manufacturer, and the fact that he obtained the goods from the manufacturer had nothing to do with his liability. He sold the goods and he trespassed in that way. All persons taking part in the commission of a wrong are equally liable; all who join in a tort are equally liable. This principle is believed to be elementary.

Twentieth Exception: The Master erred in his consideration of the case of Reed vs. Lawrence, 29 Fed., 915, as discussed by him at pp. 31 and 32 of his report.

Twenty-first Exception: The Master erred in his consideration of the rule of law as laid down in Kansas City Hay Press Co. vs. Devol, 127 Fed., 363, where it appears that there had

been no apportionment on account of the other patented features in the machine; whereas, the Complainant in this case has particularly apportioned for every patented feature.

Twenty-second Exception: The Master erred in not having regard for the undisputed testimony of Mr. Fowle that the Dowagiac Company could and would have supplied the demand for all of the Dowagiac Shoe Drills in this territory.

Twenty-third Exception: The master erred in considering the question of damages in taking into consideration the existence of the Van Brunt, the Monitor, the Superior, the Fountain City, the Hoosier, the Tiger, the Buckeye, and the Havana, all of which drills were shown to have been patented drills. It appears that there were no unpatented drills in use in this territory covered by the Dowagiac shoe drills.

Twenty-fourth Exception: The Master erred in the consideration of the question of damages in construing Mr. Fowle's testimony at pp. 38, 38 and 39 of his report.

Twenty-fifth Exception: The Master erred in taking into consideration the quantities of these various machines; erred as to the numb reof Dowagiac machines that were sold, and erroneously took into consideration the testimony regarding the Monitor Drills, the testimony to which he referred not having been offered in this case and having been contradicted and refuted by the agents of the Monitor Drills, viz., Mr. Poirer and by every one who was adequately acquainted with the territory.

Twenty-sixth Exception: The Master erred in not taking into consideration that the Dowagiac shoe drills substantially superseded other shoe and grain drills in this territory, making use of merely coil spring pressure device and superseded the same except as they were provided with patented features which enabled them to be used in the territory by overcoming the obstacles.

Twenty-seventh Exception: The Master erred in holding that the defendants were not wilful trespassers and infringers, considering that they have been conducting this trespassing and infringing since the beginning of this suit, for they certainly had abundant notice, and certainly it appears that

from the time they began their trespass, the only thing that impelled the defendants to handle the particular style of grain drill was because it was "so like the Dowagiac grain drill, so popular here," meaning that the Dowagiac shoe drill was the popular drill in the territory.

Twenty-eighth Exception: The Master erred in not taking into consideration the history of the various shoe drills referred to in his report.

Twenty-ninth Exception: The Master erred in the consideration of the testimony relative to the Kentucky coil spring shoe drill, a very recent drill not of the prior or contemporaneous art and also a patented drill. The sales were substantially nothing after the injunction in that case, there not being enough of those drills sent out by Deere & Webber to put a single sample drill in the hands of each of their dealers, and there is the testimony of one or two farmers only that they found they could work the drill, but there is no testimony as to its durability or efficiency; they could not be determined in one year, nor in two years. It is strange that Defendnts did not swear more witnesses and manufacture more testimony of this kind.

Thirtieth Exception: The Master erred in not taking into proper consideration the testimony of the fifteen witnesses referred to on p. 44 of his report.

Thirty-first Exception: The Master erred in not giving proper weight and consideration to the disinterested testimony of Mr. Oren C. Gregg, which he considers at pp. 44 and 45 of his report, and not taking into consideration the whole of his testimony, the quotations from the same being garbled and unfair, and misleading and designed to give an impression contrary to the full testimony by him. Mr. Gregg was a witness who had knowledge of the entire territory, was a disinterested party and a man of high standing in the agricultural community, and he states that until the advent of the Dowagiac Drill, there was continual agitation at the Farmers' Institutes, wherever he went, about the seeding problem and that the agitation did not absolutely cease until the coming of the Dowagiac drill, which solved the problem, putting the broad-cast seeders and the Havana Drills to the rear and substantially out of use.

Thirty-second Exception: The Master erred in the consideration of the testimony of Oscar W. Bond, who never had any experience with grain drills and had never visited the northwest territory. His testimony proved nothing.

Thirty-third Exception: The Master erred in not giving proper consideration to the testimony of Mr. Charles L. Fowle, as considered by him on typewritten p. 46. The full testimony should have been considered.

Thirty-fourth Exception: The Master erred in taking into consideration the testimony of S. E. Davis in the main case of Dowagiac vs. Smith & Zimmer, that not being properly in evidence in this case and being fully refuted by the weight of the contrary evidence of the case. Mr. Davis was an absolutely interested witness. He does not mention any unpatented drills that were in use in the territory and confesses that *his own drills were patented.* The Monitor was certainly not in the lead, because it was only possible to secure a mention of it by jogging the memories of some of the witnesses, and it is believed that those of the defendants' witnesses who did mention it had been carefully coached beforehand. The Monitor Company patented a drill directly infringing the Hoyt patent and were notified to desist.

Thirty-fifth Exception: The Master erred in the consideration of the opinion in Reed vs. Lawrence, as indicated at pp. 47 and 48 of the record.

Thirty-sixth Exception: The Master erred in the consideration of the opinion of Judge Clark, filed in the case of Dowagiac vs. McSherry, and specifically overrules that opinion on substantially the same evidence as there submitted.

Thirty-seventh Exception: The Master erred in not holding that the defendants herein are wanton and wilful infringers.

Thirty-eighth Exception: The Master erred in holding that there had been no evidence offered by which an apportionment could be made between patented and unpatented features in this case, because the costs and profits were figured on an unpatented hoe drill especially so that the same could be compared with the patented shoe drills; and this the

Master has absolutely and entirely ignored. He certainly should have taken it into consideration had he felt that an apportionment between patented and unpatented features was necessary, because absolutely every unpatented feature appeared in the hoe drill; but, it is however contended, that, as the hoe drill could not be used in the territory, it was unnecessary to apportion because there were no unpatented drills in use in the territory.

Thirty-ninth Exception: The Master erred in taking into consideration patented drills and insisting that they had anything to do with this case, in view of the decision in Turrill vs. Railroad Company, 20 Fed., 912, which case is specifically approved by the Supreme Court of the United States.

Fortieth Exception: The Master erred in not following the decision of Judge Clark in the case of Dowagiac vs. McSherry.

Forty-first Exception: The Master erred in overruling the decision of Judge Clark in the case of Dowagiac vs. McSherry.

Forty-second Exception: The Master erred in not submitting a trial report to Counsel so that the course pursued by him might have been thoroughly and carefully reviewed.

Forty-third Exception: The Master erred in his finding of the facts in the case, his findings being substantially contrary to the evidence in all material particulars.

Forty-fourth Exception: The Master erred in the application of the rule of law to the facts in the case.

The DOWAGIAC MANUFACTURING COMPANY,

By FRED L. CHAPPELL,
Solicitor for Complainant.

Kalamazoo, Michigan,
October 23, 1906.

Endorsed: Filed October 25, 1906. Henry D. Lang, Clerk. By Margaret C. Noonan, Deputy.

UNITED STATES CIRCUIT COURT.

DISTRICT OF MINNESOTA.

FOURTH DIVISION.

Dowagiac Manufacturing Company,
Complainant,
vs.
Smith & Zimmer,
Defendants.

COMPLAINANT'S EXCEPTIONS TO THE MASTER'S REPORT.

Exceptions taken by Complainant to the report made herein by Sampson R. Child, Special Master, to whom the cause was referred by this court, which report was filed the 27th day of September, 1906.

FIRST.

The Master erred as a matter of law and fact in not finding substantially that the infringement by defendants of complainant's patented machine was open, flagrant and continuous; that defendants invaded the territory theretofore supplied by complainant, which complainant endeavored to supply by every appliance known to the trade, and was able, willing and anxious to supply; that defendants employed former dealers of the complainant, to convass the same territory for them previously canvassed for the complainant, for the purpose of selling the infringing machine, and reduced the prices established by complainant in said territory, thus compelling complainant to increase its selling force, and to reduce its prices to meet such reductions in price, to maintain its footing in said territory.

SECOND.

The Master erred as a matter of law and fact in not finding substantially that it was the features of the patent in suit

that made defendants' infringing machine saleable, so that the entire profits complainant might have made upon the infringing machines so sold by defendants are due complainant as damages herein; that complainant has proved that the sales of defendants' machines were entirely due to the patented features thereof, and complainant is therefore entitled to recover the entire profits and damages derived from the sale of the entire machines, and there is no occasion to apportion profits and damages between the patented and unpatented features of the machines, further than as has been done by complainant.

THIRD.

The Master erred as a matter of law and fact in not finding substantially that the defendants gains and profits as appears from the schedules of Mr. Hart, derived from the manufacture and sale of infringing machines during the period of said infringement, after making all legal deductions, amounts to substantially $11,857.67, the same being the difference between the cost and selling price plus the commission on goods sold on consignment.

FOURTH.

The Master erred as a matter of law and fact in not finding substantially that the damages sustained by complainant by reason of the sale of said infringed machines by defendants, were the amount of the profits which complainant might have made on the infringing machines that were made and sold by the defendants which complainant was equipped to make and sell and could have made and sold but for the unlawful competition of the defendants, that is to say, on 1,150 machines so made and sold at a profit of $23,344.12. These figures are based on the numbers here indicated, being 966 machines sold by Messrs. Selby, Starr & Co., as found in the summary of the sales, etc., at the back of the record, and the drills handled by Smith & Zimmer on commission account, all of which, so far as this record shows, are infringements, the figures being computations as to profits according to Schedule 9, page 1, presented at page 86 of the Dowagiac Accounting Schedules, said figures, of course, being subject to corrections for error.

FIFTH.

The Master erred as a matter of law and fact in not find-

ing substantially that to the amount found in p. 4, should be added a loss to the complainant resulting from the fact that had it marketed said increased number of machines, certain expenses as of administration, operating and selling, would not have been proportionately or materially increased, so that the saving to complainant in that respect would have amounted to $10,079.00; these figures also being derived from the Dowagiac Accounting Schedules from the consideration of the overhead expenses as indicated in said schedule, subject to any errors that may be found in computation.

In reaching the amounts herein stated, there has been eliminated the saving to complainant by the use of certain patented features as the Fowle patent, 411,141, and the two Hoyt patents 448,861 and 492,302, aggregating a saving of 1.8¢ per shoe, which on 17,592 shoes amounts to $316.656. This elimination was made because said patented improvements, while in no way modifying the price of the machines or affecting its sale, resulted in a saving to complainant of that amount in the cost of manufacture which is the basis of this computation.

SIXTH.

The Master erred in finding for Complainant in nominal damages, whereas, said Master should have found for Complainant in the substantial sum amounting to not less than $35,857.00 or thereabouts, of which $10,079.00 can be classed as overhead expenses and $11,857.83 as substantially Defendants' profits, such profits being much less than defendants' damages and consequently not being very material.

SEVENTH.

The Master erred in his finding as to the quantities of infringing drills, p. 2 of his report, the same being incorrectly stated.

EIGHTH.

The Master erred as a matter of law and fact in not recommending the allowance to the complainant of all sums that it has paid out for expert service, including the services of Mr. McVicker of the Safeguard Account Company, and of Mr. Hart of Hart Brothers, Tibbits, Herion & Co.

NINTH.

The Master erred in finding that there were no unpatented grain drills open to the public.

TENTH.

The Master erred in holding that the patent in suit is only for a part of a grain drill, viz., a spring, as distinguished from the entire drill. (P. 3 of report.)

ELEVENTH.

The Master erred in holding that the saleability of the infringing drills did not rise from the patented features. (P. 3 of report.)

TWELFTH.

The Master erred in considering the testimony of Mr. Fowle as stated on p. 4 of his report.

THIRTEENTH.

The Master erred in his application of the principles of law as laid down in WESTINGHOUSE vs. AIR BRAKE COMPANY, referred to on p. 4 of his report.

FOURTEENTH.

The Master erred in taking into consideration non-infringing drills, both shoe drills and disc drills, as referred to toward the bottom of p. 4 of his report.

FIFTEENTH.

The Master erred in holding that the disc drill has superseded the Dowagiac drill—and it is desired to comment at this point that this is a remarkable statement for the Master to make, to say that the disc drill has superseded the Dowagiac shoe drill, when he is not willing to admit that the Dowagiac shoe drill even superseded the broadcast seeder. This statement of the Master at this point shows a radical and unaccountable prejudice. (P. 4 of report.)

SIXTEENTH.

The Master erred in considering coil spring structures and holding that they were open to the public, when the undisputed testimony in the case is that such drills were all patented structures. (Pp. 4 and 5 of report.)

SEVENTEENTH.

The Master erred in the principle of law in holding that the disc drills and shoe drills were open for defendants to

purchase,—that not being the question. (Pp. 4 and 5 of report.)

EIGHTEENTH.

The Master erred in his consideration of the Hoyt spring—which is not the thing up for consideration herein—with other devices, particularly with the Van Brunt & Wilkins, the Monitor, the Fountain City, the Superior, and the Tiger drills, all of which have been shown to be patented drills, and it appearing that there were no unpatented drills in use in the territory. (P. 5 of report.)

NINETEENTH.

The Master erred in considering the testimony as stated on p. 5 of the report, toward the bottom of the page; because the hoe drill never superseded anything in this territory, it could not be used—and the bent of the Master's mind is indicated when he says that the weighted shoe drills superseded the hoe drill for the weighted shoe drills were sold two or three years to the extent of about three hundred a year. It will not be difficult to estimate to what extent the weighted shoe drills superseded anything.

TWENTIETH.

The Master erred in his statement and consideration of the number of drills on p. 6 of his report; he errs in considering such drills at all because they were not open to the public.

TWENTY-FIRST.

The Master erred in the application of the rule of law laid down in KEYSTONE vs. ADAMS, 151 U. S., 139, REED vs. LAWRENCE, 29 Fed. 915, KANSAS CITY HAY PRESS CO. vs. DEVOL, 127 Fed., 363. (P. 6 of report.)

TWENTY-SECOND.

The Master erred in declining to give consideration to the testimony referred to at the bottom of p. 6 of his report.

TWENTY-THIRD.

The Master erred in his statement and shows that he has not considered this matter, by referring to the report of George F. Hitchcock. (P. 7 of report.)

TWENTY-FOURTH.

The Master erred in overruling Judge Clark's findings in the case of Dowagiac Manufacturing Company vs. The McSherry Manufacturing Company. (P. 7 of his report.)

TWENTY-FIFTH.

The Master erred in regarding the findings of George F. Hitchcock, Special Master in the case of Dowagiac Manufacturing Company vs. the Minnesota Moline Plow Company, a precedent for his findings herein, while he specifically overrules the findings of a Federal Judge in an adjudicated case. This is absurd, because it is clear, from the language of the Master, and he can find no circumstance that will warrant him in finding in any particular and in any way for the complainant.

TWENTY-SIXTH.

The Master erred in not taking into consideration for the purpose of apportionment, the figures submitted. He ignored the evidence on unpatented hoe drills, which would afford a standard of comparison had the Master desired to avail himself of such a standard, the testimony in the case covering all facts necessary for a consideration of this case from any legal standpoint conceived of or discussed, either in the briefs of complainant or of defendants.

TWENTY-SEVENTH.

The Master erred in taking into consideration, or insisting that the Complainant should take into consideration, the patented coil structure, spring pressure shoe drills, as indicated on pp. 16 and 17 of his report.

TWENTY-EIGHTH.

The Master erred in refusing to hold that the territory designated as "The Northwest" was limited as well as local when the entire wheat-growing area of the world is taken into consideration, or, for that matter, the entire wheat-growing area of the United States.

TWENTY-NINTH.

The Master erred in taking into consideration in this matter the Van Brunt Drill, the Havanna Drill, the Superior

Drill, the Tiger Drill, or any of the other shoe drills which he has chosen to consider, because by the record it appears that they are all patented drills.

THIRTIETH.

The Master erred in holding that the Complainant's Company could not supply the demand for these grain drills, because it is the undisputed testimony in the case that they could. The testimony would show that they could not only supply the demand for the infringing drills, but they could have supplied the demand for every grain drill needed in this territory, to which reference has been made as "The Northwest". The Master nor anyone else has the right to disregard the undisputed statements in the evidence of Mr. Hoyt and Mr. Fowle as to the capacity of the Dowagiac plant.

THIRTY-FIRST.

The Master should have held that the complainant had complied with the rule of law and had shown that it was entitled to recover the entire profits and the entire damages, and that the proper measure for such damages was what the complainant would have made had it made the sales made by the defendant and that certainly the complainant would have made an equal number or more.

THIRTY-SECOND.

The Master erred in holding that patented drills, which the jobber could have purchased, were proper to be taken into consideration in the estimate of the profits and damages in this case, because certainly the jobber handling the goods is just as culpable as the manufacturer, and the fact that he obtained the goods from the manufacturer had nothing to do with his liability. He sold the goods and he trespassed in that way. All persons taking part in the commission of a wrong are equally liable; all who join in a tort are equally liable. This principle is believed to be elementary.

THIRTY-THIRD.

The Master erred in not taking into consideration that the Dowagiac shoe drill substantially superseded other shoe and grain drills in this territory, making use of merely coil spring pressure devices, and superseded the same except as they

were provided with patented features which enabled them to be used in the territory by overcoming the obstacles.

THIRTY-FOURTH

The Master erred in holding that the defendants were not wilful trespassers and infringers, considering that they have been conducting this trespassing and infringing since the beginning of this suit, for they certainly had abundant notice, and certainly it appears that from the time they began their trespass, the only thing that impelled the defendants to handle the particular style of grain drill was because it was "so like the Dowagiac grain drill, so popular here," meaning that the Dowagiac shoe drill was the popular drill in the territory.

THIRTY-FIFTH.

The Master erred in not taking into consideration the history of the various shoe drills referred to in his report.

THIRTY-SIXTH.

The Master erred in not giving proper weight and consideration to the disinterested testimony of Mr. Orren C. Gregg, which he considers at pp. 44 and 45 of his report, and not taking into consideration the whole of his testimony, the quotations from the same being garbled and unfair, and misleading and designed to give an impression contrary to the full testimony by him. Mr. Gregg was a witness who had knowledge of the entire territory, was a disinterested party and a man of high standing in the agricultural community, and he states that until the advent of the Dowagiac Drill, there was continual agitation at the Farmers' Institutes, wherever he went, about the seeding problem and that the agitation did not absolutely cease until the coming of the Dowagiac Drill, which solved the problem, putting the broad cast seeders and the Havana Drills to the rear and substantially out of use.

THIRTY-SEVENTH.

The Master erred in holding that there had been no evidence offered by which an apportionment could be made between patented and unpatented features in this case, because the costs and profits were figured on an unpatented hoe drill especially so that the same could be compared with the patent-

ed shoe drill, and this the Master has absolutely and entirely ignored and he certainly should have taken it into consideration had he felt that an apportionment was necessary, because absolutely every unpatented feature appeared in the hoe drill, but, it is however contended, that, as the hoe drill could not be used in the territory, it was unnecessary to apportion because there were no unpatented drills in use in the territory.

THIRTY-EIGHTH.

The Master erred in taking into consideration patented drills and insisting that they had anything to do with this case in view of the decision in Turrill vs. Railroad Company, 20 Fed., 912, which case is specifically approved by the Suprem Court of the United States.

THIRTY-NINTH.

The Master erred in not submittilng a trial report to Counsel so that the course pursued by him might have been thoroughly and carefully reviewed.

FORTIETH.

The Master erred in his finding of the facts in the case, his findings being substantially contrary to the evidence in all material particulars.

FORTY-FIRST.

The Master erred in the application of the rule of law to the facts in the case.

DOWAGIAC MANUFACTURING COMPANY,

By FRED L. CHAPPELL,

Solicitor for Complainant.

Kalamazoo, Michigan, October 22, 1906.

Endorsed: Filed October 25, 1906. Henry D. Lang, Clerk. By Margaret C. Noonan, Deputy.

86 And on February 13th, 1907 the following order setting down the exceptions to the Masters Reports for hearing was entered of record in said cause, to-wit:—

87 United States Circuit Court for the District of Minnesota.
Fourth Division.

Term Minutes. October Term A. D. 1906. February 13th, 1906.

Wednesday morning.

Court opened pursuant to adjournment.

Present: Honorable Charles F. Amidon, Judge.
Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr. Deputy.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs.
Minnesota Moline Plow Company and T. H. Martin,
Defendants.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs.
Smith & Zimmer, Defendants.

Pursuant to a stipulation of the solicitors for the respective parties the exceptions to the Masters' Reports in the above entitled causes are set down for hearing before Honorable Charles F. Amidon, United States District Judge, on Thursday, February 14th, 1907, at ten o'clock, A. M.

Ordered: That this Court be and the same hereby is adjourned until Thursday morning, February 14th, 1907, at ten o'clock.

A True Record.

Attest:

HENRY D. LANG, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

88 And on February 14th, 1907, the following proceedings of Court were entered of record in said court, viz:—

89 United States Circuit Court for the District of Minnesota.
Fourth Division.

Term Minutes. October Term A. D. 1906 February 14th, 1907.
Thursday morning.

Court opened pursuant to adjournment.

Present: Honorable Charles F. Amidon, Judge.
Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr. Deputy.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs.
Minnesota Moline Plow Company and T. H. Martin, Defendants.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs.
Smith & Zimmer, Defendants.

The exceptions to the Masters' Reports in the above entitled causes having been set down for hearing on this day, the parties appear by their respective solicitors, the complainant by Fred L. Chappell, Esq., and the defendants The Minnesota Moline Plow Company and T. H. Martin, by Messrs. Banning & Banning, and the defendants, Smith & Zimmer by Julius S. Starr, Esq.,

Mr. Chappell presents and argues the case on behalf of the complainant.

Mr. Starr presents and argues the case on behalf of the defendants, Smith & Zimmer.

Mr. Thomas A. Banning presents and argues the case on behalf of the defendants Minnesota Moline Plow Company and T. H. Martin in part.

And the hearing of said cause not being concluded at the hour of adjournment, it is by the Court

Ordered: that further proceedings be and the same hereby are postponed until Friday morning, February 15th, 1907, at ten o'clock.

90 United States Circuit Court for the District of Minnesota. Fourth Division.

Term Minutes. October Term. A. D. 1906 February 14th, 1907.

Ordered: That this Court be and the same hereby is adjourned until Friday morning, February 15th, 1907, at ten o'clock.

A true Record.

Attest: Henry D. Lang, Clerk,
By Geo. F. Hitchcock, Jr. Deputy.

91 And on February 15th, 1907, the following proceedings of Court were entered of record in said cause, to-wit:

92 United States Circuit Court for the District of Minnesota. Fourth Division.

Term Minutes. October Term. A. D. 1906, February 15th, 1907.

Friday morning. Court opened pursuant to adjournment.

Present: Honorable Charles F. Amidon, Judge. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs.
Minnesota Moline Plow Company, and T. H. Martin, Defendants.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs.
Smith & Zimmer, Defendants.

This day again comes the parties to these causes by their respective solicitors, and the hearing thereof is proceeded with as follows.

Mr. Thomas A. Banning concludes his argument.

Mr. Chappell argues in reply and the causes are submitted.

Whereupon the Court renders an oral decision overruling the exceptions and sustaining the reports of the Masters.

93 And on the same day the following oral decision of Judge Amidon was filed of record in said causes, to-wit:

94 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Co., Complainant,
No. 404. vs.
Minnesota Moline Plow Co. et al, Defendants.

Dowagiac Manufacturing Co., Complainant,
No. 460. vs.
Smith & Zimmer, Defendants.

On Exceptions to Master's Report.

Appearances: For Complainant, Fred L. Chappell, Esq.
For Defendants in Minnesota Moline Plow case, Messrs. Banning & Banning.
For Defendants, Smith & Zimmer, Julius S. Starr, Esq.,

Amidon, J. (orally)

These suits in their previous stages have established the validity of the complainant's patent, and have established that the defendants have infringed that patent. The causes were referred to Masters for an ascertainment of the extent of the complainant's damages by reason of such infringement.

The rule in a patent cause is not different from what it is in any other cause in this particular, that the burden of proving the extent of his damages is upon the plaintiff. He comes forward with the charge not only that the patent has been infringed, but that he has been damaged, and it is incumbent upon him to prove the character and the extent of the damage in order to justify the Court in entering a judgment in his favor.

95 In the presentation of his cause before the Masters the complainant sought to recover both the profits which he claims the defendants secured by reason of their unlawful sale of his invention, and also the damage which he claims that he suffered by reason of such sales.

In order to pass upon the question of damages in these cases, it is of the first importance that the Court ascertain the extent of the complainant's invention. Not the extent of his manufacture, but the extent of his invention. The wrong that has been done him is a violation of the patent securing to him the invention.

Now in his claims and specification he sets forth his invention in this language:

"This invention relates to new and useful improvements in grain drills commonly known as 'shoe drills'; and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

The [objection] of the invention is to provide an independent spring pressure for each of the shoes and covering wheels of the drill, whereby the work of the drills is rendered efficient in uneven ground, and to provide means whereby said shoes and covering wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another."

The essential feature, therefore, of his invention, is not a press drill, but it is this spring pressure device for pressing the shoes into the ground. This is his invention, and it is the invasion of that that constitutes the defendants' wrongdoing.

The complainant having made that invention and secured a patent for it, proceeded to manufacture the entire structure in which it is embodied, making a grain drill consisting of tongue, frame, seed-box and wheels and all the other elements of a large and complicated machine. His profits accrued from the manufacture of that machine and its sale, not from the manufacture and sale of his invention.

The defendants, in their infringement of the patent, sold structures that consisted of entire grain drills. Their
96 profits were derived from the entire structure, and not from the subordinate improvement of the complainant's invention. And now the complainant comes forward and says, "It cost you to manufacture this grain drill, the entire structure, $20.00, and you sold it at $40.00,"—I am not attempting to give the exact figures, but only something by way of illustration,—"therefore, there was a profit upon each grain drill that you sold embodying my invention, of $20.00; therefore, I am entitled to recover of you for every grain drill that you sold the sum of $20.00." That is not only unreasonable when brought to the standard of common sense, but it is in violation of the well established principles of law. Where an invention consists simply in an improvement of an established structure or machine, and there is an infringement of the patent, the patentee, when he seeks to recover damages, is bound to apportion the profits according to the extent of his improvement when estimated in the light of the entire structure. He is bound to bring forth evidence himself upon that subject that will make plain, reasonably plain, the extent of his damages by reason of the infringement of his patent. The complainant here has not attempted to do that. There is nothing in the record from which any finding could be made. On the contrary, the complainant says, "My invention is the combination invention, and I have specified in my claims all the elements of a grain drill, and therefore my structure is an entirety, and whoever sells a structure embodying my invention is accountable to me for the entire structure which he sells. I think the complainant has proceeded upon an unjustifiable ground.

Then, upon the other branch of the case, the complainant says, "If the defendants had not sold their infringing machines I should have sold as many more of my machines as they sold of the infringing machines." But the evidence shows that this was not an open field in which the complainant's machine and the defendants' machines were the only competitors.

97 The evidence shows clearly that there were a large number of other grain drills on the market, and that at an early stage of the period of infringement there entered the field a new device known as the disc grain drills, and that that form of structure has proven so much more efficient than the shoe drills that it had well nigh driven the shoe drills out of the market by the close of the year 1902.

The only evidence there is that if the infringing structures had not been sold the complainant's structure would have been sold in a number equal to the infringing structures is, that those infringing structures embodied the complainant's grain drill, although they were sold under another name. But the evidence satisfies me, as it satisfied the Masters, that there were many other considerations that were important and sometimes controlling considerations in the determination of what grain drill a purchaser would buy. It does not follow by any means that a farmer who bought a McSherry drill, if he had not gotten it would not have purchased a Monitor, or a Van-Brunt, or some of the other numerous grain drills, that were on the market, and surely during the greater part of the period of the infringement it does not follow that if the purchaser had not obtained the McSherry drill, for example, he would not have purchased the disc, as the considerations which lead and control a purchaser are the way the subject is presented to him, the fact that he has had other dealings with the jobber, often the fact of credit, and a hundred and one of those minor considerations which we all know are very efficient in determining, with the ordinary purchaser, where and what he will buy, and that the simple structure is not the only element to be taken into consideration.

The authorities are plain that a presumption of fact does not arise from the mere fact that infringing devices have been sold, that if they had not been sold the patented structure would have been sold, and yet that is the only evidence that is before me on the subject.

98 Considerable has been said in the argument to the effect that these defendants are "wanton" infringers of the complainant's patent. I do not think the evidence justifies any such finding. The fact that these defendants saw fit to contest the suit for infrignment, acting upon the belief that their structure in fact did not infringe, does not make them out wanton and wilful infringers of the complainant's rights. The cases in which that term has been most frequently applied, are those in which a party having a license for the sale of a patented

article, has proceeded to sell the patented article after the cancellation of his license. Some such situation as that.

We all know that whether a given structure is an infringement of a patent is a matter depending upon many nice considerations of fact, and many difficult questions of law, and that they are matters as to which laymen and lawyers and even courts entertain divergent opinions. In same features of the great body of litigation that has grown up on this patent for the Dowagiac drill, it has appeared that some considerable divergency of judicial opinion has arisen as to what constituted an infringement of a patent. Now, it would be a serious and unjustifiable charge to say that every defendant who saw fit to litigate his rights in court under such circumstances was a wanton and willful infringer of the complainant's invention.

In the case before Judge Clark, it seems that the evidence there was such as to lead him to believe that the defendants in that particular case were guilty of wanton and willful infringement. The evidence in that case is not before me, but sufficient excerpts from it have been presented here to show that the conduct of the defendants in that litigation was wholly different from the conduct of the defendants here. There the defendants were guilty of evasion and misrepresentation, setting up from time to time wholly different and inconsistent theories,
99 and saying that statements which they had produced as to their business were given under a misapprehension at one time, and starting in upon an entirely different basis at another time, and of course a defendant who acts in that way does give a just ground for the inference that his conduct is willfully wrong.

Here, the defendants have come forward with perfect frankness, have given a full and complete disclosure, and have met every requirement of open, frank and honest dealing that the litigation could require of it.

A presumption exists that the findings and decision of a Master in such cases as these is correct. The burden is upon the party excepting to point out and satisfy the Court that the Masters have erred. I have not been satisfied by the arguments presented to me that the Masters were guilty of any error in either of these cases. I have examined with considerable care Mr. Hitchcock's very full and complete review, both of the facts and of the law in this case, and have been greatly aided by the same. I believe he has presented the case fairly and justly, and that his conclusions are amply supported by the facts and the law.

The exceptions to the reports of the Masters will be overruled, and a judgment entered in each of the case in accordance with their reports.

Mr. Chappell: If your Honor please; in the matter of furnishing a standard for comparison, I think that you have possibly overlooked that very complete figures have been submitted in the schedule on the unpatented hoe drill which, as we view it, was the only unpatented drill that was on sale, and I was wondering whether or not in the remark that you made you had overlooked that structure.

The Court: I had not overlooked that, but I do not think that your duty is performed by using a hoe drill as a basis of comparison.

100 And on March 4th, 1907, the following motions for rehearing was filed of record in said causes, to-wit:

101 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Co., Complainant.
vs. In Equity.
Minnesota Moline Plow Co., Defendant.

Petition for Rehearing.

Now comes the above named complainant and moves the court for a rehearing in the above entitled cause, for the following reasons:

First: That the Court and the Master have misapprehended the scope of said complainant's patent.

Second: That the Court and the Master have misapprehended the rule of law as applicable to the apportionment of profits and damages.

Third: That the Court and the Master have misapprehended as to the scope of the evidence offered in the matter of the consideration of the prior art in its bearings on the
102 question of the Hoyt improvement and the consequent question of awarding to the complainant of profits and damages.

Fourth: That the Court as well as the Master has misapplied the rules of law and has misapprehended the facts as developed by the evidence in this case.

DOWAGIAC MANUFACTURING CO.,
By Fred L. Chappell, Solicitor.

I hereby certify that I have examined and read the foregoing petition for rehearing, and that in my opinion such petition is well founded and should be granted by this Honorable Court, and that such petition has not been filed for delay.

FRED L. CHAPPELL,
Counsel for Complainant.

Kalamazoo, Michigan,
March 1. 1907.

Endorsed: Filed March 4, 1907. Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

103 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Co., Complainant.
vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.
Petition for Rehearing.

Now comes the above named complainant and moves the court for a rehearing in the above entitled cause, for the following reasons:

First: That the Court and the Master have misapprehended the scope of said complainant's patent.

Second: That the Court and the Master have misapprehended the rule of law as applicable to the apportionment of profits and damages.

Third: That the Court and the Master have misapprehended as to the scope of the evidence offered on the matter of
104 the consideration of the prior art in its bearings on the question of the Hoyt improvement and the consequent question of awarding to the complainants of profits and damages.

Fourth: That the Court as well as the Master has misapplied the rules of law and has misapprehended the facts as developed by the evidence in this case.

DOWAGIAC MANUFACTURING CO.,
By Fred L. Chappell, Solicitor.

I hereby certify that I have examined and read the foregoing petition for rehearing, and that in my opinion such petition is well founded and should be granted by this Honorable Court, and that such petition has not been filed for delay.

FRED L. CHAPPELL,
Counsel for Complainant.

Kalamazoo, Michigan,
March 1. 1907.

Endorsed: Filed March 4, 1907. Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

105 And on April 15th, 1907 the following orders denying motions for re-hearing and ordering decrees were filed of record in said causes, to-wit:

106 United States Circuit Court, District of Minnesota,
Fourth Division.

The Dowagiac Manufacturing Company, Complainant,
vs. In Equity.
Minnesota Moline Plow Company, Defendant.

This cause came duly on to be further heard before the court upon the written briefs of counsel touching the question of costs upon the final hearing thereof before the court upon the report of Mr. George F. Hitchcock, Jr., as special master in chancery. And the court having duly considered the same,

It Is Ordered And Decreed: That the defendant recover the costs of the reference before the master and of his report and of the exceptions and of the hearing thereon, and that the complainant recover all other costs of the suit.

It Is Further Ordered: That the petition of the complainant for a rehearing of said cause be, and the same is hereby denied.

Dated April 10, 1907.

CHARLES F. AMIDON, Judge.

Endorsed: Filed April 15, 1907. Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

107 United States Circuit Court, District of Minnesota,
Fourth Division.

The Dowagiac Manufacturing Company, Complainant,
vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

This cause came duly on to be further heard before the court upon the written briefs of counsel touching the question of costs upon the final hearing thereof before the court upon the report of Mr. George F. Hitchcock, Jr., as special master in chancery. And the court having duly considered the same,

It Is Ordered And Decreed: That the defendants recover the costs of the reference before the master and of his report

and of the exceptions and of the hearing thereon, and that the complainant recover all other costs of the suit.

It Is Further Ordered: That the petition of the complainant for a rehearing of said cause be, and the same is hereby denied.

Dated April 10, 1907.

CHARLES F. AMIDON, Judge.

Endorsed: Filed April 15, 1907. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

108 And on the same day the following decrees were entered of record in said causes, to-wit:

109 United States Circuit Court for the District of Minnesota, Fourth Division.

Term Minutes, April Term, A. D. 1907. April 15th, 1907.

Monday morning.

Court opened pursuant to adjournment.

Present: Honorable William Lochren, Judge.
Honorable Page Morris, Judge.
Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

The Dowagiac Manufacturing Company, Complainant,
No. 404. vs.
Minnesota Moline Plow Company, Defendant.

This cause came duly on to be further heard before the court upon the written briefs of counsel touching the question of costs upon the final hearing thereof before the court upon the report of Mr. George F. Hitchcock, Jr., as special master in chancery. And the Court having duly considered the same,

It Is Ordered And Decreed: That the defendant recover the costs of the reference before the master and of his report and of the exceptions and of the hearing thereon, and that the complainant recover all other costs of the suit.

It Is Further Ordered: That the petition of the complainant for a rehearing of said cause, be, and the same is hereby denied.

Dated April 10, 1907.

CHARLES F. AMIDON, Judge.

It is therefore Considered, Ordered, Adjudged and Decreed, in accordance with the order heretofore entered overruling

the objections to the master's report and confirming the same, and in accordance with the foregoing decree, that the complainant do have and recover of and from the defendant herein the sum of One Dollar so found to be due by the Master, and that the complainant herein recover of and from the defendant the costs and disbursements of this case up to the time of the reference herein to the master, to be taxed, and that it have execution therefor.

110 It Is Further Ordered that the defendant herein do have and recover of and from the complainant herein the costs and disbursements of this cause upon the reference and accounting, to be taxed, and that it have execution therefor.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

This cause came duly on to be further heard before the court upon the written briefs of counsel touching the question of costs upon the final hearing thereof before the court upon the report of Mr. George F. Hitchcock, Jr., as special master in chancery. And the Court having duly considered the same,

It Is Ordered And Decreed: That the defendants recover the costs of the reference before the master and of his report and of the exceptions and of the hearing thereon, and that the complainant recover all other costs of the suit.

It Is Further Ordered: That the petition of the complainant for a rehearing of said cause, be, and the same is hereby denied.

Dated April 10, 1907.

CHARLES F. AMIDON, Judge.

It is therefore Considered, Ordered, Adjudged and Decreed, in accordance with the order heretofore entered overruling the objections to the master's report and confirming the same, and in accordance with the foregoing decree, that the complainant do have and recover of and from the defendants herein the sum of One Dollar so found to be due by the Master, and that the complainant herein recover of and from the defendants the costs and disbursements of this case up to the time of the reference herein to the master, to be taxed, and that it have execution therefor.

111 United States Circuit Court for the District of Minnesota.
Fourth Division.

Term Minutes. April Term A. D. 1907 April 15th, 1907.

It Is Further Ordered that the defendants herein do have and recover of and from the complainant herein the costs and disbursements of this cause upon the reference and accounting, to be taxed, and that they have execution therefor.

Ordered: That this Court be and the same hereby is adjourned until Tuesday morning, April 16th, 1907, at ten o'clock.

A True Record.

Attest:

HENRY D. LANG, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

112 And on October 7th, 1907 the following assignments of error were filed of record in said causes, to-wit:—

113 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs. In Equity.
Minnesota Moline Plow Company, et al, Defendants.

Assignments of Error.

And now, to-wit, on this 5th day of October, 1907, comes the complainant by its solicitor and counsel, Fred L. Chappell, and says that the final decree in the said cause is erroneous and against the rights of the complainant for the following reasons:

First Court erred in confirming the Master's report.

Second: The Court erred in not sustaining complainant's exceptions to the Master's Findings.

Third: The Court erred in not sustaining the first exception to the Master's finding, which is as follows:

First Exception: The Master erred as a matter of law and fact in not finding substantially that the infringement by defendants of complainant's patented machine was open, flagrant and continuous; that defendants invaded the territory theretofore supplied by complainant, which complainant endeavored to supply by every appliance shown to the trade, and was able, willing, and anxious to supply; that defendants employed former dealers of the complainant, to canvass the same territory for it, previously canvassed for the complainant, for the purpose of selling the infringing machine, and reduced the prices established by complainant in said territory, thus compelling the complainant to increase its selling

force, and to reduce its prices to meet such reductions in price, to maintain its footing in said territory.

Fourth: The Court erred in not sustaining the second exception to the Master's finding, which is as follows:

Second Exception: The Master erred as a matter of law and fact in not finding that it was the feature of the patent in suit that made defendants' infringing machine saleable, so that the entire profits complainant might have made upon the infringing machines so sold by defendants are due complainant as damages herein; that complainant has proved that the sales of defendants' machines were entirely due to the patented features thereof, and complainant is therefore entitled to recover the entire profits and damages derived from the sale of the entire machines, and there is no occasion to apportion profits and damages between the patented and unpatented features of the machines, further than as has been done by complainant.

114 Fifth: The Court erred in not sustaining the third exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding that the defendants' gains and profit as appears from the schedules of Mr. Hart, derived from the manufacture and sale of infringing machines during the period of said infringement, after making all legal deductions, amounts to substantially Eleven Thousand Nine Hundred Fifty-Two and Ninety-Two One Hundredths Dollars ($11,952.92), the same being subject to scrutiny and any corrections in computation, that may be found.

Sixth: The Court erred in not sustaining the fourth exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding that the damages sustained by complainant by reason of the sale of said infringing machines by defendants, were the amount of the profits which complainant might have made on the infringing machines which were made and sold by the defendants which complainant was equipped to make and sell and could have made and sold but for the unlawful competition of the defendants, that is to say, on 2,071 machines so made and sold at a profit of $37,227.78, these figures being subject to errors in computation that may be found.

Seventh: The Court erred in not sustaining the fifth exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding that to the amount found in Paragraph 4, should be added a loss to the complainant resulting from the fact that had it marketed said increased number of machines, certain expenses as of administration, operating and selling, would not have been proportionately or materially increased, so that the saving to complainant in that respect would have amounted to $17,101.60 making the total recovery $54,329.38, subject to errors in computation.

In reaching the amounts herein stated, there has been eliminated the saving to complainant by the use of certain patented features as the Fowle patent, 411,141, and the two Hoyt patents 448,861 and 492,302, aggregating a saving of 1.8c per shoe, which on 39,111 shoes amounts to $703,998. This elimination was made because said patented improvements, while in no way modifying the price of the machines or affecting its sale, resulted in a saving to complainant of that amount in the cost of manufacture, which is the basis of this computation.

Eighth: The Court erred in not sustaining the sixth exception to the Master's finding, which is as follows:

115 The Master erred in not recommending the allowance to the Complainant of all sums that it has paid out for expert service, including the services of Mr. McVicker of the Safeguard Account Company, Mr. Hart, of Hart Brothers, Tibbits Herrion & Co.

Ninth: The Court erred in not sustaining the seventh exception to the Master's finding, which is as follows:

The Master erred in finding for the Complainant in nominal damages, whereas, the Master should have found for Complainant in the substantial sum amounting to not less than $54,246.30, or thereabouts, of which $17,091.61 can be classed as overhead expenses and $11,952.92 as Defendants' actual profits.

Tenth: The Court erred in not sustaining the eighth exception to the Master's finding, which is as follows:

The Master erred in construing the testimony of Professor Cooley, as he did at p. 8 of his report, to mean that the claims were to details and not to entire combinations.

Eleventh: The Court erred in not sustaining the ninth exception to the Master's finding, which is as follows:

The Master erred in his construction of the testimony of Jesse M. Smith, as indicated at p. 9 of his report, in that he

attempts to ascribe the invention to a mere detail and not to an entire combination.

Twelfth: The Court erred in not sustaining the tenth exception to the Master's finding, which is as follows:

The Master erred, as indicated at p. 11 of his report, in considering merely the objects of the invention and not taking into consideration that the invention was claimed as a combination, and further that the combination embraced substantially all parts of a grain drill, the parts co-acting and operating much the same as the elements which enter into a new chemical compound, as fully appears from claims 1, 2, and 3 of the said patent.

Thirteenth: The Court erred in not sustaining the eleventh exception to the Master's finding, which is as follows:

The Master erred in construing the testimony of Charles L. Fowle, as he has done at pp. 11 and 12 of his report, the Master considering only a part of Mr. Fowle's testimony and not the whole.

Fourteenth: The Court erred in not sustaining the twelfth exception to the Master's finding, which is as follows:

116 The Master erred in his application of the rule of law as indicated in the case of Garretson vs. Clark, 111 U. S., 120, in consideration of the matter appearing on pp. 13 and 14 of the record.

Fifteenth: The Court erred in not sustaining the thirteenth exception to the Master's finding, which is as follows:

The Master erred in applying the rule of law as indicated in Manufacturing Co. vs. Cowing, 105 U. S., 253, as discussed on the typewritten page 14 of his report.

Sixteenth: The Court erred in not sustaining the fourteenth exception to the Master's finding, which is as follows:

The Master erred in taking into consideration, or insisting that the Complainant should take into consideration, the patented coil spring structure, spring pressure shoe drills, as indicated on pp. 16 and 17 of his report.

Seventeenth: The Court erred in not sustaining the fifteenth exception to the Master's finding, which is as follows:

The Master erred in refusing to hold that the territory designated as "The Northwest" was limited as well as local when the entire wheat-growing area of the world is taken into con-

sideration, or for that matter, the entire wheat-growing area of the United States.

Eighteenth: The Court erred in not sustaining the sixteenth exception to the Master's finding, which is as follows:

The Master erred in taking into consideration in this matter the Van Brunt Drill, the Havana Drill, the Superior Drill, the Tiger Drill, or any of the other shoe drills which he has chosen to consider, because by the record it appears that they are all patented drills.

Nineteenth: The Court erred in not sustaining the seventeenth exception to the Master's finding, which is as follows:

The Master erred in holding that the Complainant's Company could not supply the demand for these grain drills, because it is the undisputed testimony in the case that they could. The testimony shows that they could not only supply the demand for the infringing drills, but that they could have supplied the demand for every grain drill needed in this territory, to which reference has been made as "The Northwest." The Master nor any one else has the right to disregard the undisputed evidence of Mr. Hoyt and Mr. Fowle as to the capacity of the Dowagiac plant.

117 Twentieth: The Court erred in not sustaining the eighteenth exception to the Master's finding, which is as follows:

The Master erred in applying the rule of law as laid down in the following cases specifically considered by him, viz.,—

The Crosby Steam Gauge & Valve Co., vs. Consolidated Valve Co., 141 U. S., 441;
Tilghman vs. Proctor, 125 U. S., 136;
Philip vs. Nock, 17 Wall, 460;
Warren vs. Keep, 155 U. S., 285;
Wales vs. Waterbury, 101 Fed., 126;
Rose vs. Hirsh, 94 Fed., 177;
Penfield vs. Potts, 126 Fed., 475;
Reed vs. Lawrence, 29 Fed., 915;
Mosher vs. Joyce, 51 Fed., 441;
Tuttle vs. Claflin, 76 Fed., 227;
Piaget Novelty Company vs. Headley et al, 123 Fed., 897;
Coddington vs. Propfe et al, 112 Fed., 1016;
Hoke Eng. Co. vs. Schraubstager, 53 Fed., 817;
National Folding Book Co. vs. Elsas et al, 86 Fed., 917;
Regina Music Box Co. vs. Otto, 114 Fed., 508;
Westinghouse vs. Air Brake Company 131 Fed., 607;
Elizabeth vs. Pavement Company, 97 U. S., 126.

The Master should have held that the complainant had complied with the rule of law and had shown that it was entitled to recover the entire profits and the entire damages and that the proper measure for such damages was what the Complainant would have made had it made the sales made by the defendant and that certainly the complainant would have made an equal number or more.

Twenty-first: The Court erred in not sustaining the nineteenth exception to the Master's finding, which is as follows:

The Master erred in holding that patented drills, which the jobber could have purchased, were proper to be taken into consideration in the estimate of the profits and damages in this case, because certainly the jobber handling the goods is just as culpable as the manufacturer, and the fact that he obtained the goods from the manufacturer had nothing to do with his liability. He sold the goods and he trespassed in that way. All persons taking part in the commission of a wrong are equally liable; all who join in a tort are equally liable. This principle is believed to be elementary.

118 Twenty-second: The Court erred in not sustaining the twentieth exception to the Master's finding, which is as follows: The Master erred in his consideration of the case of Reed vs. Lawrence, 29 Fed., 915, as discussed by him at pp. 31 and 32 of his report.

Twenty-third: The Court erred in not sustaining the twenty-first exception to the Master's finding, which is as follows: The Master erred in his consideration of the rule of law as laid down in Kansas City Hay Press Co. vs. Devol, 127 Fed., 363, where it appears that there had been no apportionment on account of the other patented features in the machine; whereas, the Complainant in this case had particularly apportioned for every patented feature.

Twenty-fourth: The Court erred in not sustaining the twenty-second exception to the Master's finding, which is as follows: The Master erred in not having regard for the undisputed testimony of Mr. Fowle that the Dowagiac Company could and would have supplied the demand for all of the Dowagiac Shoe Drills in this territory.

Twenty-fifth: The Court erred in not sustaining the twenty-third exception to the Master's finding, which is as follows:

The master erred in considering the question of damages in taking into consideration the existence of the Van Brunt, the

Monitor, the Superior, the Fountain City, the Hoosier, the Tiger, the Buckeye, and the Havana, all of which drills were shown to have been patented drills. It appears that there were no unpatented drills in use in this territory covered by the Dowagiac shoe drills.

Twenty-sixth: The Court erred in not sustaining the twenty-fourth exception to the Master's finding, which is as follows:

The Master erred in the consideration of the question of damages in construing Mr. Fowle's testimony at pp. 39 and 40 of his report.

Twenty-seventh: The Court erred in not sustaining the twenty-fifth exception to the Master's finding, which is as follows:

119 The Master erred in taking into consideration the quantities of these various machines; erred as to the number of Dowagiac machines that were sold, and erroneously took into consideration the testimony regarding the Monitor Drills, the testimony to which he referred not having been offered in this case and having been contradicted and refuted by the agents of the Monitor Drills, viz., Mr. Poirer and by every one who was adequately acquainted with the territory.

Twenty-eighth: The Court erred in not sustaining the twenty-sixth exception to the Master's finding, which is as follows:

The Master erred in not taking into consideration that the Dowagiac shoe drills substantially superseded other shoe and grain drills in this territory, making use of merely coil spring pressure device and superseded the same except as they were provided with patented features which enabled them to be used in the territory by overcoming the obstacles.

Twenty-ninth: The Court erred in not sustaining the twenty-seventh exception to the Master's finding, which is as follows:

The Master erred in holding that the defendants were not wilful tresspassers and infringers, considering that they have been conducting this trespassing and infringing since the beginning of this suit, for they certainly had abundant notice, and certainly it appears that from the time they began their trespass, the only thing that impelled the defendants to handle the particular style of grain drill was because it was "so like the Dowagiac grain drill, so popular here," meaning that the Dowagiac shoe drill was the popular drill in the territory.

Thirtieth: The Court erred in not sustaining the twenty-eighth exception to the Master's finding which is as follows:

The Master erred in not taking into consideration the history of the various shoe drills referred to in his report.

Thirty-first: The Court erred in not sustaining the twenty-ninth exception to the Master's finding, which is as
120 follows:

The Master erred in the consideration of the testimony relative to the Kentucky coil spring shoe drill, a very recent drill not of the prior or contemporaneous art and also a patented drill. The sales were substantially nothing after the injunction in that case, there not being enough of these drills sent out by Deere & Webber to put a single sample drill in the hands of each of their dealers and there is the testimony of one or two farmers only that they found they could work the drill, but there is no testimony as to its durability or efficiency, that could not be determined in one year, nor in two years. It is strange that Defendants did not swear more witnesses and manufacture more testimony of this kind.

Thirty-second: The Court erred in not sustaining the thirtieth exception to the Master's finding, which is as follows:

The Master erred in not taking into proper consideration the testimony of the fifteen witnesses referred to on p. 44 of his report.

Thirty-third: The Court erred in not sustaining the thirty-first exception to the Master's finding, which is as follows:

The Master erred in not giving proper weight and consideration to the disinterested testimony of Mr. Oren C. Gregg, which he considers at pp. 44 and 45 of his report, and not taking into consideration the whole of his testimony, the quotations from the same being garbled and unfair, and misleading and designed to give an impression contrary to the full testimony by him. Mr. Gregg was a witness who had knowledge of the entire territory was a disinterested party and a man of high standing in the agricultural community, and he states that until the advent of the Dowagiac Drill, there was continual agitation at the Farmers' Institutes, wherever he went, about the seeding problem and that the agitation did not absolutely cease until the coming of the Dowagiac drill, which solved the problem, putting the broad-cast seeders and the Havana Drills to the rear and substantially out of use.

Thirty-fourth: The Court erred in not sustaining the thirty-second exception to the Master's finding, which is as follows:

121 The Master erred in the consideration of the testimony of Oscar W. Bond, who never had any experience with grain drills and had never visited the northwest. His testimony proved nothing.

Thirty-fifth: The Court erred in not sustaining the thirty-third exception to the Master's finding, which is as follows:

The Master erred in not giving proper consideration to the testimony of Mr. Charles L. Fowle, as considered by him on typewritten p. 46. The full testimony should have been considered.

Thirtysixth: The Court erred in not sustaining the thirty-fourth exception to the Master's finding, which is as follows:

The Master erred in taking into consideration the testimony of S. E. Davis in the main case of Dowagiac vs. Smith & Zimmer, that not being properly in evidence in this case and being fully refuted by the weight of the contrary evidence of the case. Mr. Davis was an absolutely interested witness. He does not mention any unpatented drills that were in use in the territory and confesses that his own drills were patented. The Monitor was certainly not in the lead, because it was only possible to secure a mention of it by jogging the memories of some of the witnesses, and it is believed that those of the defendants' witnesses who did mention it had been carefully coached beforehand. The Monitor Company patented a drill directly infringing the Hoyt patent and were notified to desist.

Thirtyseventh: The Court erred in not sustaining the thirty-fifth exception to the Master's finding, which is as follows:

The Master erred in the consideration of the opinion in Reed vs. Lawrence, as indicated at pp. 47 and 48 of the record.

Thirtyeighth: The Court erred in not sustaining the thirty-sixth exception to the Master's finding, which is as follows:

The Master erred in the consideration of the opinion of Judge Clark, filed in the case of Dowagiac vs. McSherry, and specifically overrules that opinion on substantially the same evidence as there submitted.

122 Thirtyninth: The Court erred in not sustaining the thirty-seventh exception to the Master's finding, which is as follows:

The Master erred in not holding that the defendants herein are wanton and wilful infringers.

Fortieth: The Court erred in not sustaining the thirty-eighth exception to the Master's finding, which is as follows:.

The Master erred in holding that there has been no evidence offered by which an apportionment could be made between patented and unpatented features in this case, because the costs and profits were figured on an unpatented hoe drill especially so that the same could be compared with the patented shoe drills, and this the Master has absolutely and entirely ignored and he certainly should have taken it into consideration had he felt that an apportionment between patented and unpatented features was necessary, because absolutely every unpatented feature appeared in the hoe drill; but as it is however contended, that, as the hoe drill could not be used in the territory it was unnecessary to apportion because there were no unpatented drills in use in the territory.

Fortyfirst: The Court erred in not sustaining the thirty-ninth exception to the Master's finding, which is as follows:

The Master erred in taking into consideration patented drills and insisting that they had anything to do with this case, in view of the decision in Turrill vs. Railroad Company, 20 Fed., 912, which case is specifically approved by the Supreme Court of the United States.

Fortysecond: The Court erred in not sustaining the fortieth exception to the Master's finding, which is as follows:

The Master erred in not following the decision of Judge Clark in the case of Dowagiac vs. McSherry.

Fortythird: The Court erred in not sustaining the fortyfirst exception to the Master's finding, which is as follows:

The Master erred in overruling the decision of Judge Clark in the case of Dowagiac vs. McSherry.

Forty-fourth: The Court erred in not sustaining the forty-second exception to the Master's finding, which is as follows:

123 The Master erred in not submitting a trial report to Counsel so that the course pursued by him might have been thoroughly and carefully reviewed.

Fortyfifth: The Court erred in not sustaining the forty-third exception to the Master's finding, which is as follows:

The Master erred in his finding of the facts in the case, his findings being substantially contrary to the evidence in all material particulars.

Fortysixth: The Court erred in not sustaining the forty-fourth exception to the Master's finding, which is as follows:

The Master erred in the application of the rule of law to the facts in the case.

Fortyseventh: The Court erred in its conclusions and findings as to the scope of the invention of the patent in suit.

Fortyeighth: The Court erred in not finding that the evidence showed that the entire salability or market value of the infringing grain drills was due to the patented improvements appearing in the patent in suit.

Fortyninth: The Court erred in finding that the profits on the infringing grain drills should be apportioned between the several parts making up the entire structure.

Fiftieth: The Court erred in not finding that a grain drill structure embodying the features of the infringing grain drill and not embodying the patented structure could be manufactured and sold at a profit.

Fiftyfirst: The Court erred in finding that the defendants' profits were derived from the entire structure and were not due to "subordinate improvements of the complainant's invention."

Fiftysecond: The Court erred in holding that the complainant could not furnish substantial evidence as to its
124 damages by reason of the infringement.

Fifty-third: The Court erred in not finding that the complainant had furnished a proper standard of comparison and proper figures of comparison, towit,—the hoe drill and the figures in regard thereto, and that the evidence shows that such drill is the only unpatented structure open to the public.

Fiftyfourth: The Court erred in not holding that the burden was upon the defendant to show what, if any, parts of the improvements and advantages of the defendants' grain drills were due to patented improvements other than the improvements of the patent in suit.

Fiftyfifth: The Court erred in not following substantially the same rules as to finding of profits as were followed in the McSherry case.

Fiftysixth: The Court erred in not finding that the complainant by reliable testimony had shown that the sales of the defendants' infringing drills were a diversion of its sales.

Fiftyseventh: The Court erred in not taking into consideration the fact that all of the drills directly competing with the

defendants, in the manufacture and sale of their infringing drills were infringing structures or else independently patented structures.

Fifty-eighth: The Court erred in not holding that the proofs of the complainant were sufficient to show the loss of sales and loss of business by complainant on account of the infringing drills sold by the defendant.

Fifty-ninth: The Court erred in holding that complainant must prove that the purchasers of defendants' infringing drills would not have purchased the drills of some other make before complainant is entitled to recover damages, it being submitted that no proofs of this character are necessary unless it appears that some drill was in existence that would serve the purpose equally as well and was open to the public and in use.

125 Sixtieth: The Court erred in finding in effect that complainant must prove that purchasers of the infringing grain drills would not have purchased some other infringing structure or a disk drill, a Monitor, or a VanBrunt drill, or other drill, all of which were independently patented.

Sixty-first: The Court erred in finding that the defendants had not wantonly and wilfully infringed the complainant's rights.

Sixty-second: The Court erred in not increasing the amount of damages to the complainant above the actual damages according to the United States Statute in such case made and provided.

Sixty-third: The Court erred in not referring the case back to the Master with directions that they make a finding for complainant in the amount shown by the undisputed testimony.

Sixty-fourth: The Court erred in awarding costs to the defendants incurred under the reference before the Master and his report, and of the exceptions and the hearing thereon.

Sixty-fifth: The Court erred in awarding nominal damages only.

Wherefore, the said Dowagiac Manufacturing Company, Complainant herein, prays that the said decree of the United States Circuit Court for the District of Minnesota, Fourth Division, be reversed as to the matters named, and that the said United States Circuit Court for the District of Minnesota, Fourth Division, be directed to reverse its decree, with such further order as equity demands.

FRED L. CHAPPELL,
Solicitor for Complainant.

Endorsed: Filed Oct. 7, 1907. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

* * * * * * *

(Here follows the assignment of errors in the case against Smith and Zimmer which is omitted because an amended assignment of errors appears at page 1160 of this printed record.)

* * * * * * *

139 And on the same day the following petitions for appeal and orders allowing same were filed of record in said causes, to-wit:

140 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs. In Equity.
Minnesota Moline Plow Company, et al., Defendants.

In the Matter of Appeal.

Your petitioner, the Dowagiac Manufacturing Company, complainant in the above-entitled cause, here respectfully represents and shows that in the above-entitled cause pending in the United States Circuit Court for the District of Minnesota, Fourth Division, in equity, there was entered, on the 10th day of April, 1907, a final decree greatly to the prejudice and injury of your petitioner, which said decree is erroneous and inequitable in many particulars.

Wherefore, in order that your petitioner may obtain relief in the premises and have opportunity to show the errors complained of, your petitioner prays that it may be allowed to file an appeal in the case to the United States Circuit Court of Appeals for the Eighth Circuit, and that proper orders touching the security required of the complainant may be made; and that the transcript of the record, proceedings and papers on which said orders were made, duly authenticated may be sent to the United States Circuit Court of Appeals for the Eighth Circuit.

Dated this 5th day of October, 1907.

FRED L. CHAPPELL,
Solicitor for Complainant.

Appeal is allowed as prayed for on the giving of a bond in the usual form in the sum of Five Hundred Dollars ($500.00),

or the deposit of Five Hundred Dollars ($500.00) in cash may be accepted in lieu of such bond.

141 WM. LOCHREN,
United States District Judge.

Dated this 7th day of October, 1907.

Endorsed: Filed Oct. 7, 1907. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

142 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

In the Matter of Appeal.

Your petitioner, the Dowagiac Manufacturing Company, complainant in the above-entitled cause, here respectfully represents and shows that in the above-entitled cause pending in the United States Circuit Court for the District of Minnesota, Fourth Division, in equity, there was entered, on the 10th day of April, 1907, a final decree greatly to the prejudice and injury of your petitioner, which said decree is erroneous and inequitable in many particulars.

Wherefore, in order that your petitioner may obtain relief in the premises and have opportunity to show the errors complained of, your petitioner prays that it may be allowed to file an appeal in the case to the United States Circuit Court of Appeals for the Eighth Circuit, and that proper orders touching the security required of the complainant may be made; and that the transcript of the record, proceedings and papers on which said orders were made, duly authenticated may be sent to the United States Circuit Court of Appeals for the Eighth Circuit.

Dated this 5th day of October, 1907.

FRED L. CHAPPELL,
Solicitor for Complainant.

Appeal is allowed as prayed for on the giving of a bond in the usual form in the sum of Five Hundred Dollars ($500.00), or the deposit of Five Hundred Dollars ($500.00) in cash may be accepted in lieu of such bond.

143 WM. LOCHREN,
United States District Judge.

Dated this 7th day of October, 1907.

Endorsed: Filed Oct. 7, 1907. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

144 And on the same day the following bonds on appeal were filed of record in said causes, to-wit:—

145 In the United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs. In Equity.
Minnesota Moline Plow Company and Thomas H. Martin, Defendants.

Bond.

Know All Men By These Presents: That we, the Dowagiac Manufacturing Company, a corporation, the above-named complainant, as principal, and the Title Guaranty & Surety Company, of Scranton, Pennsylvania, as surety, are held and firmly bound unto the Minnesota Moline Plow Company and Thomas H. Martin, in the full and just sum of Five Hundred Dollars ($500.00) to be paid to the said Minnesota Moline Plow Company and Thomas H. Martin, or their successors, assigns or legal representatives, to which payment well and truly to be made, we bind ourselves, our successors and assigns, jointly and severally by these presents.

Sealed with our seals and dated this 7th day of October, in the year of our Lord, one thousand nine hundred and seven.

Whereas, lately, at the April, 1907, term of the Circuit Court of the United States for the District of Minnesota, Fourth Division, in a suit pending in said court between the Dowagiac Manufacturing Company, complainant, and the Minnesota Moline Plow Company and Thomas H. Martin, defendants, a decree was rendered against the said Dowagiac Manufacturing Company on the 10th of April, 1907, and the said Dowagiac Manufacturing Company has been granted an appeal from the decision of the said court to reverse the said decree in the aforesaid suit, and a citation directed to the said Minne-
146 sota Moline Plow Company and T. H. Martin, defendants, citing and admonishing them to be and appear in the United States Circuit Court of Appeals for the Eighth Circuit, at St. Louis, Missouri, thirty days from and after the date of said citation.

Now, the condition of the above obligation is such, that, if the said Dowagiac Manufacturing Company shall prosecute said appeal to effect, and answer all damages and costs if it

fail to make good its plea, then the above obligation to be void, else to remain in full force and virtue.

DOWAGIAC MANUFACTURING CO.,
By W. F. Hoyt, Secretary.

(Coporate Seal) THE TITLE GUARANTY & SURETY COMPANY,
By Edmond S. Rankin, Agent.
By Stephen H. Wattles, Attorney.

In presence of: Luella G. Greenfield.

The foregoing bond is hereby approved in substance and form.

PAGE MORRIS,
United States District Judge.

Dated: October 11 1907.

Endorsed: Filed October 11 1907 Henry D. Lang, Clerk, By Geo. F. Hitchcock, Jr., Deputy.

147 In the United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs. In Equity.
Ernest F. Smith & Luppo W. Zimmer, Defendants.

Bond.

Know All Men By These Presents: That we, the Dowagiac Manufacturing Company, a corporation, the above-named complainant, as principal, and the Title Guaranty & Surety Company, of Scranton, Pennsylvania, as surety, are held and firmly bound unto Ernest F. Smith and Luppo W. Zimmer, in the full and just sum of Five Hundred Dollars ($500.00) to be paid to the said Ernest F. Smith and Luppo Zimmer, or their successors, assigns or legal representatives, to which payment well and truly to be made, we bind ourselves, our successors and assigns, jointly and severally by these presents.

Sealed with our seals and dated this 7th day of October, in the year of our Lord, one thousand nine hundred and seven.

Whereas, lately, at the April, 1907, term of the Circuit Court of the United States for the District of Minnesota, Fourth Division, in a suit pending in said court between the Dowagiac Manufacturing Company, complainant, and Ernest F. Smith and Luppo W. Simmer, defendants, a decree was rendered against the said Dowagiac Manufacturing Company on the 10th of April, 1907, and the said Dowagiac Manufacturing Company has been granted an appeal from the decision of the said

court to reverse the said decree in the aforesaid suit, and a citation directed to the said Ernest F. Smith and Luppo
148 W. Zimmer, defendants, citing and admonishing them to be and appear in the United States Circuit Court of Appeals for the Eighth Circuit, at St. Louis, Missouri, thirty days from and after the date of said citation.

Now, the condition of the above obligation is such, that, if the said Dowagiac Manufacturing Company shall prosecute said appeal to effect, and answer all damages and costs if it fail to make good its plea, then the above obligation to be void, else to remain in full force and virtue.

DOWAGIAC MANUFACTURING CO.,
By W. F. Hoyt, Secretary.

(Corporate Seal) THE TITLE GUARANTY & SURETY COMPANY,
By Edmond S. Rankin, Agent.
By Stephen H. Wattles, Attorney.

In presence of: Luella G. Greenfield.

The foregoing bond is hereby approved in form and substance.
PAGE MORRIS,
United States District Judge.

Dated: October 11 1907.

Endorsed: Filed October 11 1907 Henry D. Lang, Clerk, By Geo. F. Hitchcock, Jr. Deputy.

149 And on the same day the following citations, with admission of service thereon, were filed of record in said causes, to-wit:—

150 United States of America. Circuit Court. Eighth Circuit.

Citation.

United States of America. To Minnesota Moline Plow Company, and Thomas H. Martin—Greeting:

You are hereby cited and admonished to be and appear in the United States Circuit Court of Appeals for the Eighth Circuit, at the City of St. Louis Missouri, sixty days from and after the day this citation bears date, pursuant to an appeal allowed and filed in the Clerk's Office of the Circuit Court, District of Minnesota Fourth Division, wherein Dowagiac Manufacturing Company is appellant and you are appellees to show cause, if any there be, why the Decree rendered against the said Appellant as in said Appeal mentioned should not be cor-

rected, and why speedy justice should not be done the parties in that behalf.

Witness, the Honorable William Lochren Judge of said Court this 7th day of October A. D. 1907.

WM. LOCHREN,
Judge of said Court.

Due Service of the foregoing Citation by Copy at Minneapolis, Minnesota is hereby admitted this 9th day of October 1907.

THOMAS A. BANNING,
EPHRAIM BANNING,
Solicitors for Appellees.

No. 3041, Filed Mar. 29, 1909. John D. Jordan, Clerk.

Ent. No. 404 Original United States Circuit Court, District of Minnesota. Fourth Division. Dowagiac Manufacturing Company vs. Minnesota Moline Plow Company and Thomas H. Martin, Defendants. Citation Filed 12th day of October 1907. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

151 United States of America. Circuit Court. Eighth Circuit.

Citation.

United States of America. To Ernest F. Smith and Luppo Zimmer—Greeting:

You are hereby cited and admonished to be and appear in the United States Circuit Court of Appeals for the Eighth Circuit, at the City of St. Louis Missouri, sixty days from and after the day this citation bears date, pursuant to an appeal allowed and filed in the Clerk's Office of the Circuit Court, District of Minnesota Fourth Division, wherein Dowagiac Manufacturing Company is appellant and you are appellees to show cause, if any there be, why the Decree rendered against the said Appellant as in said Appeal mentioned should not be corrected, and why speedy justice should not be done the parties in that behalf.

Witness, the Honorable William Lochren Judge of said Court this 7th day of October A. D. 1907.

WM. LOCHREN,
Judge of said Court.

Due Service of the foregoing Citation by Copy at Minneapolis, Minnesota is hereby admitted this 8th day of October 1907.

JULIUS S. STARR,
Solicitors for Appellees.

No. 3042. Filed Mar, 29, 1909. John D. Jordan, Clerk.

Ent. No. 460 Original United States Circuit Court, District of Minnesota. Fourth Division. Dowagiac Manufacturing Company vs. Smith and Zimmer, Defendants. Citation Filed this 17th day of October 1907. Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy.

152 And on December 13th, 1907 the following stipulations and orders extending time for forwarding transcripts to Circuit Court of Appeals in said causes, were filed of record in said causes, to-wit:

153 United States Circuit Court, for the District of Minnesota. Fourth Division.

Dowagiac Manufacturing Company, Complainant,
vs.
Minnesota Moline Plow Co., et al., Defendants.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the transcript herein to the Court of Appeals may be extended to, and including the first day of March, 1908, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

Kalamazoo, Michigan,
November 23, 1907. FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.

Chicago, Illinois.
November 25th, 1907. BANNING & BANNING,
Counsel for Minnesota Moline Plow Co., et al.

Endorsed: Filed December 13, 1907. Henry D. Lang, Clerk, By Margaret C. Noonan, Deputy.

154 Circuit Court of the United States, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
vs.
Minnesota Moline Plow Company, et al, Defendants.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including March 1, 1908.

WALTER H. SANBORN, Judge.

Dated this 5th day of December, 1907.

155 United States Circuit Court, for the District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
vs.
Smith & Zimmer, Defendant.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto through their respective counsel, that the time for forwarding the transcript herein to the Court of Appeals may be extended to, and including the first day of March, 1908, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed without prejudice to either party until that date.

FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.

JULIUS S. STAR,
Counsel for Smith & Zimmer.

Kalamazoo, Michigan,
November 23, 1907.

Peoria, Ill., November 23, 1907.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including March 1, 1908.

WALTER H. SANBORN, Judge.

Dated this 5th day of December, 1907.

156 And on February 10th and 11th, 1908, the following stipulations and orders extending time for forwarding transcripts to Circuit Court of Appeals in said causes, were entered of record in said causes, to-wit:

157 United States Circuit Court for the District of Minnesota. Fourth Division.

Term Minutes. October Term A. D. 1907, February 10, 1908.

Monday morning. Court opened pursuant to adjournment.

Present: Honorable William Lochren, Judge.
Henry D. Lang, Clerk,
By Margaret C. Noonan, Deputy.

Dowagiac Manufacturing Company, Complainant,
No. 404. vs.
Minnesota Moline Plow Company, et al, Defendant.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the transcript herein to the Court of Appeals may be extended to and including, the first day of May, 1908, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.

Kalamazoo, Michigan,
Jan. 28, 1908.

Chicago, Illinois,
Jany. 29th, 1908.

BANNING & BANNING,
Counsel for Minnesota Moline Plow Co., et. al.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended, to and including May 1, 1908.

WALTER H. SANBORN, Judge.

Dated this 7 day of February, 1908.

Ordered: That this Court be and the same hereby is adjourned until Tuesday morning, February 11th, 1908.

A True Record.

Attest: Henry D. Lang, Clerk,

By Geo. F. Hitchcock, Jr., Deputy.

158 United States Circuit Court for the District of Minnesota. Fourth Division.

Term Minutes. October Term, A. D. 1907, February 11, 1908.

Tuesday morning. Court opened pursuant to adjournment.

Present: Honorable William Lochren, Judge.
Henry D. Lang, Clerk,
By Margaret C. Noonan, Deputy.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the transcript herein to the Court of Appeals may be extended to and including, the first day of May, 1908, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

FRED L. CHAPPELL,
Kalamazoo, Michigan, Counsel for Dowagiac Mfg. Co.
Jan. 28, 1908.

Peoria, Illinois, J. S. STARR,
Jan. 31, 1908. Counsel for Smith & Zimmer.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended, to and including May 1st, 1908.

WALTER H. SANBORN, Judge.

Dated this 7 day of February, 1908.

Ordered: That this Court be and the same hereby is adjourned until Wednesday morning, February 12th, 1908.

A True Record.

Attest: Henry D. Lang, Clerk,

By Geo. F. Hitchcock, Jr., Deputy.

159 And on April 23rd, 1908 the following stipulations and orders extending the time for forwarding transcripts to Circuit Court of Appeals in said causes, were entered of record therein, to-wit:

160 United States Circuit Court for the District of Minnesota, Fourth Division.

Term Minutes, April Term. A. D. 1908, April 23rd, 1908.

Thursday morning. Court opened pursuant to adjournment.

Present: Honorable Page Morris, Judge,
Henry D. Lang, Clerk,
By Geo. F. Hitchcock, Jr., Deputy.

* * * * * * *

161 Dowagiac Manufacturing Company, Complainant,
vs.
Smith & Zimmer, Defendants.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the Transcript herein to the Court of Appeals may be extended to, and including the first day of January, 1909, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

FRED L. CHAPPELL,
Kalamazoo, Michigan, Counsel for Dowagiac Mfg. Co.
April 11, 1908.

J. S. STARR,
Peoria, Illinois, Counsel for Smith & Zimmer.
April 18, 1908.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including January 1st, 1909.

WALTER H. SANBORN, Judge.

Dated this 23 day of April, 1908.

162 Dowagiac Manufacturing Company, Complainant,
No. 404. vs.
Minnesota, Moline Plow Co., et al., Defendant.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the Transcript herein to the Court of Appeals may be extended to, and including the first day of January, 1909, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

FRED L. CHAPPELL,
Kalamazoo, Michigan, Counsel for Dowagiac Mfg. Co.
April 11, 1908.

THOMAS A. BANNING,
Chicago, Illinois, Counsel for Minnesota Moline
April 13th, 1908. Plow Co., et al.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including January 1st, 1909.

WALTER H. SANBORN, Judge.

Dated this 23 day of April, 1908.

Ordered: That this Court be and the same is hereby adjourned until Friday morning, April 24th, 1908, at ten o'clock.

A True Record.

Attest:

HENRY D. LANG, Clerk.
By George F. Hitchcock, Jr., Judge.

163 And on December 22nd and 23rd 1908 the following stipulations and orders extending the time for forwarding transcripts to Circuit Court of Appeals in said causes, were entered of record therein, to-wit:

164 United States Circuit Court for the District of Minnesota, Fourth Division.

Term Minutes, October Term, A. D. 1908. December 22nd, 1908.

Tuesday morning.

Court opened pursuant to adjournment.

Present: Honorable Milton D. Purdy, Judge.
Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr., Deputy Clerk.

Dowagiac Manufacturing Company, Complainant,
No. 944. vs.
Minnesota Moline Plow Co., et al., Defendants.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the Transcript herein to the Court of Appeals may be extended to, and including the first day of March, 1909, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

Kalamazoo, Michigan,
December 9, 1908.

FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.

Chicago, Illinois,
December 10, 1908.

BANNING & BANNING,
Counsel for Minnesota Moline Plow Co., et al.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including March 1st, 1909.

WALTER H. SANBORN, Judge.

Dated this 22 day of December, 1908.

Ordered: That this Court be and the same hereby is adjourned until Wednesday morning, December 23, 1908, at ten o'clock.

A True Record.

Attest:

HENRY D. LANG, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

165 United States Circuit Court for the District of Minnesota, Fourth Division.

Term Minutes, October Term, A. D. 1908. December 23rd, 1908.

Wednesday morning.

Court opened pursuant to adjournment.

Present: Honorable Milton D. Purdy, Judge.
Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs.
Smith & Zimmer Company, Defendant.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the Transcript herein to the Court of Appeals may be extended to, and including the first day of March, 1909, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party, until that date.

FRED L. CHAPPELL,
Kalamazoo, Michigan, Counsel for Dowagiac Mfg. Co.
December 9, 1908.

Peoria, Illinois, J. S. STARR,
Dec. 12, 1908. Counsel for Smith & Zimmer Co.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including March 1st, 1909.

WALTER H. SANBORN, Judge.

Dated this 22nd day of Dec, 1908.

Ordered: That this Court be and the same hereby is adjourned until Thursday morning, December 24th, 1908, at ten o'clock.

A True Record.

Attest:

HENRY D. LANG, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

166 And on February 24th, 1908, the following stipulations and orders extending the time for forwarding transcripts to Circuit Court of Appeals in said causes, were entered of record therein, to-wit:

167 United States Circuit Court for the District of Minnesota, Fourth Division.

Term Minutes October Term A. D. 1908, February 24, 1909.

Wednesday morning. Court opened pursuant to adjournment.

Present: Honorable Milton D. Purdy, Judge.
Henry D. Lang, Clerk,
By Geo. F. Hitchcock, Jr, Deputy,

Dowagiac Manufacturing Company, Complainant,
No. 460. vs. In Equity.
Smith & Zimmer Company, Defendant.

Stipulation.

It is hereby stipulated and agreed by and between the partoes hereto, through their respective counsel, that the time for forwarding the Transcript herein to the Court of Appeals may be extended to and including the fifteenth day of March, 1909, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party until that date.

FRED L. CHAPPELL,
Kalamazoo, Michigan, Counsel for Dowagiac Mfg. Co.
February 13, 1909.

J. S. STARR,
Peoria, Illinois, Counsel for Smith & Zimmer.
February 16, 1909.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including the fifteenth day of March, 1909.

WALTER H. SANBORN, Judge,

168 Dowagiac Manufacturing Company, Complainant,
vs.
Minnesota Molint Plow Co., Defendant.

Stipulation

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the time for forwarding the Transcript herein to the Court of Appeals may b extended to and including the fifteenth day of March, 1909, and that an order may be entered to that effect, whereby the forwarding of the transcript may be delayed, without prejudice to either party until that date.

FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.

Kalamazoo, Michigan,
February 13, 1909.

Chicago, Illinois,
February 15th, 1909.

THOMAS A. BANNING,
Counsel for Minnesota Moline Plow, Company.

It is hereby Ordered, pursuant to the stipulation of the patries, that the time for filing the transcript herein be extended to and including the fifteenth day of March, 1909.

WALTER H. SANBORN, Judge.

Dated this 22 day of Feby. 1909.

Ordered: That this Court be and the same hereby is adjourned until Thursday morning, February 25th, 1909, at ten o'clock.

A true Record.

Attest: Henry D. Lang, Clerk.
By Geo. F. Hitchcock, Deputy.

169 On December 4th, 1907, the following stipulation as to return to Circuit Court of Appeals was filed in said causes, to-wit:

170 Circuit Court of the United States, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
vs.
Minnesota Moline Plow Company, et al., Defendants.

Dowagiac Manufacturing Company, Complainant,
vs.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the printed records hereto attached may constitute the entire transcript of record in the two above-entitled cases, in view of the fact that in a large part of the record the evidence is common to both cases,—when the Master's report, opinions of the Court, decrees, and appeal papers are hereto attached.

It is stipulated and agreed by and between the parties hereto that the mechanical exhibit, "Defendant's Exhibit, Van Brunt Shoe and Pressure," need not be certified to the Court of Appeals, but it is agreed that the defendants may produce this exhibit for use at the time of the argument before such court the same as though it had been duly certified as a part of the transcripts.

It is further stipulated and agreed that the original exhibits now in the possession of the Clerk of the Court may be certified to the Circuit Court of Appeals, as a part of this transcript.

It is further stipulated that the record now on file in the Circuit Court of Appeals for the Eighth Circuit, in the
171 original case of Dowagiac Manufacturing Company vs. Minnesota Moline Plow Company need not be certified to the Court of Appeals in conjunction with the record here, but counsel for either party may refer to the record already on file so far as the same may be pertinent to the argument of the cases.

Kalamazoo, Mich.
Nov. 12, 1907.

FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.,

Chicago, Ill.,
....., 1907.

BANNING & BANNING.
Counsel for Minn. Moline Plow Co.

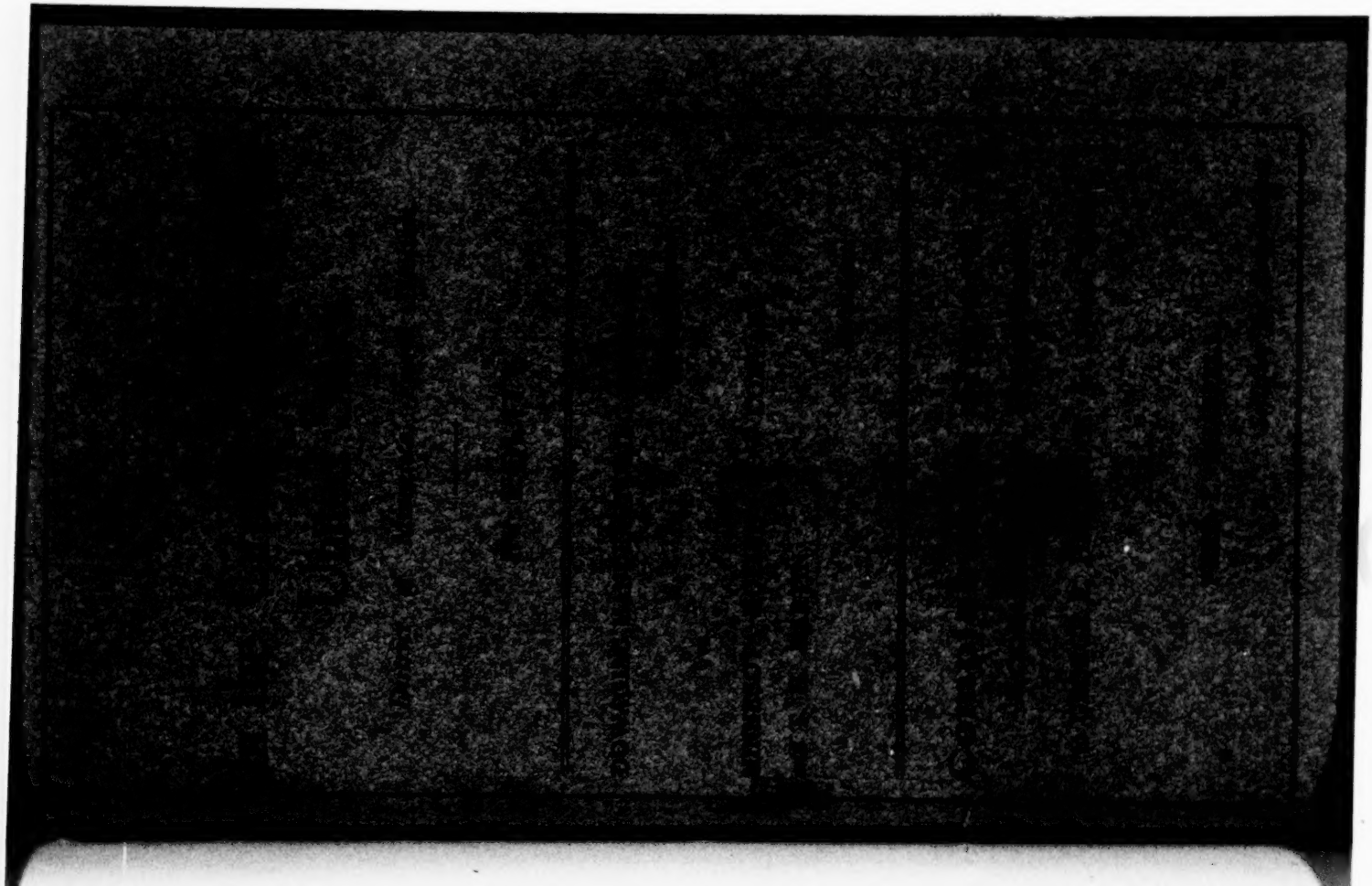
Kalamazoo, Mich.
Nov. 12, 1907.

FRED L. CHAPPELL,
Counsel for Dowagiac Mfg. Co.

Peoria, Ill., 23 Nov. 1907.

JULIUS S. STARR,
Counsel for Smith & Zimmer.

(Endorsed) Filed December 4th, 1907, Henry D. Lang, Clerk. By Geo. F. Hitchcock, Jr., Deputy Clerk.



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Master's Summons

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, and T. H. MARTIN,

Defendants.

In pursuance of the authority and direction contained in an order made in the above entitled cause by the Honorable William Lochren, Judge of said court, dated the fourth day of August, 1903, I, the undersigned, Master of this Court in said cause, do hereby summon you, the Minnesota Moline Plow Company and T. H. Martin, defendants, to appear before me at the office of the Clerk of the United States Circuit Court for the District of Minnesota, Fourth Division thereof, at Minneapolis, Minnesota, on the ..... day of August, 1903, at the hour of ten o'clock in the forenoon of that day, to attend a hearing before me, the said Master, of the matter, in reference in said cause to be had by virtue of the order of said Court of and for said District of Minnesota, Fourth Division thereof, the Honorable William Lochren referred to.

That you then and there render a full and complete detailed statement of account showing the number of grain drills used, manufactured, or sold by you, held to be an infringement in the above entitled cause, both the structures known in the cause as "Defendants' Old Structures" and the structures known as the "Defendants' Second or New Structures," stating the time when, to whom, and the full address of each and every purchaser, together with the cost of each drill, the price received therefor, and the profit made thereon, also stating definitely the size of each drill, giving the number of shoes thereon, the attachments thereon, and other matters in full regard thereto.

Hereof fail not at your peril.

Dated this ..... day of August, 1903.

GEORGE F. HITCHCOCK, JR.,

Master in Chancery, District of Minnesota, Fourth Division.

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

STIPULATION.

It is hereby stipulated by and between the counsel for the respective parties hereto, that testimony in this accounting may be taken before any qualified Notary either on a typewriting machine or stenographically; that the same may be used in the case as though taken before the Master himself, or as though the Notary had been specially appointed under the 67th rule in equity, a special Examiner.

FRED L. CHAPPELL,
Counsel for Complainant.

BANNING & BANNING,
Counsel for Defendants.

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant.

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In the matter of accounting before the Master, George F. Hitchcock, Jr.

STIPULATION.

It is hereby stipulated and agreed that the prima facie evidence on the accounting in the case of this complainant against Brennan & Co., Southwestern Agricultural Works, et al., pending in the district of Kentucky, may be, and hereby is admitted into to constitute a part of the prima facie evidence of the complainant in the accounting in the case, together with all statements, schedules, exhibits, illustrations, and other matter forming a part of or going with the prima facie evidence admitted as above, subject to all objections made or proper to be made to the same, to have the same force and effect in every respect, so far as applicable and pertinent to the issues on this accounting, as if taken and offered herein in the first instance, or *de novo*. Copies of the evidence, statements, schedules, etc., so admitted into this case to be furnished to the counsel for the defendants herein, a reasonable time before the defendants shall be required to proceed with its evidence. In like manner and under the same conditions, the deposition of William H. Taylor taken in the accounting in the case of

this complainant against the McSherry Manufacturing Co., pending in the Southern District of Ohio, may be and hereby is admitted into the accounting herein.

It is further stipulated and agreed that should the defendant herein hereafter desire to make use of any deposition or depositions taken on the part of the defendant or defendants, in the accounting in the case against Brennan & Co., Southwestern Agricultural Works et al., or in the case against the McSherry Manufacturing Co., it shall be at liberty to introduce a copy of such deposition or depositions to have the same force and effect as if said deposition or depositions had been taken herein—the defendant herein to designate any deposition or depositions which it may desire to have admitted in as above before the complainant has commenced its rebuttal testimony herein, and such deposition or depositions to be subject to any and all proper legal objections not removed by this stipulation.

FRED L. CHAPPELL,
Solicitor for Complainant.

THOMAS A. BANNING,
Solicitor for Defendants.

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In the matter of accounting before the Master, George F. Hitchcock, Jr.

Testimony taken on behalf of the complainant pursuant to consent of counsel of both parties at the office of the Dowagiac Manufacturing Co., Dowagiac, Michigan, beginning at 11:00 o'clock in the forenoon, June 27, 1905.

Present: Fred L. Chappell and W. C. Margeson on behalf of the Complainant; Thomas A. Banning, on behalf of Defendants.

This testimony is taken in the absence of the Master by consent of counsel.

By consent it is agreed that the notary shall administer oath to the witness when he arrives.

FRED W. HART testified and deposed as follows, in response to interrogatories by Mr. Margeson: —

Q. 1. Please state your name, age, residence and occupation.

A. Fred W. Hart, age 25, residence, New York City, expert accountant.

Q. 2. Please state your qualifications and experience that enables you to testify as an expert accountant.

A. My experience extends over five years, during which time I have been engaged in investigations and examinations of books, of manufacturing concerns, of various different kinds.

Q. 3. Your attention is called to two schedules marked respectively, "Shoe Drills Sold by Minnesota Moline Plow Co., 1895-1896," and "Errors and Omissions on Lists of Sales of Infringing Shoe Drills, as rendered by the Minnesota Moline Plow Co., of Minneapolis, Minn." Will you kindly state if these schedules were prepared by you, and if so what they represent?

A. I would state that I was given a list showing the sales of shoe drills by the Minnesota Moline Plow Co. from February, 1897, to April, 1903. I was required to check this list with the books of the Minnesota Moline Plow Co. and make notes of all errors and omissions in the same. The two lists referred to in the question show the results of my investigation. The first list, "Shoe Drills sold by Minnesota Moline Plow Co., 1895-1896," contains, firstly, a list of the "Minneapolis" Shoe Drills, sold during 1895 and 1896. I was informed that a certain drill manufactured by the National Drill Co., Dublin, Ind., had been supplied to the Minnesota Moline Co. and sold by them during the period 1893 to 1896. The Company's books were not available for the years 1893 and 1894, and the only shoe drills sold during 1895 were this Minneapolis Shoe Drill as here listed. So I take it that this is the drill manufactured by the National Drill Co. On this same list are shown the drills sold during 1896 by the Minnesota Moline Plow Co., which drills were apparently, from all the evidence shown by the books, manufactured by the McSherry Manufacturing Co. of Middletown, O.

At this point, Mr. Abner M. Moon, Notary Public, duly administered the oath to the witness, Mr. Fred W. Hart.

The second list, "Errors of Omissions on list of sales as rendered by the Minnesota Moline Plow Co." shows in detail, by years, the various discrepancies that were found in checking up the lists rendered with the books of the company.

Q. 4. Your attention is called to a schedule entitled "Statement showing the Shoe Drills purchased from the McSherry Manufacturing Co. of Middletown, O., and sold by the Minnesota Moline Plow Co. with the Purchase and Selling prices of the same." Will you kindly state if you used this schedule as the basis on which to check up the various sizes of machines purchased by the Minnesota Moline Plow Co. from the Mc-

Sherry Manufacturing Co. in comparison with the books of the Minnesota Moline Plow Co.

A. I did use the schedule and checked all particulars and details shown upon it with the books of the company, and in addition, I went over the company's books for the two years prior to the first date of the lists in my endeavor to find what National drills were sold by the Minnesota Moline Plow Co.

Q. 5. By whom were you requested to review the books of the Minnesota Moline Plow Co. in the preparation of the two schedules mentioned in Q. 3?

A. By Mr. Chappell, counsel, as I understand for the Dowagiac Manufacturing Co. in this cause.

> Mr. Banning: Defendants' counsel objects to any testimony in reference to the drills manufactured by the National Drill Co. of Dublin, Ind., and claimed to have been sold by the Minnesota Moline Plow Co. during the period of 1893 to 1896 on the ground that no testimony has been offered to show the construction of such drill or that they were an infringement of the Hoyt patent sued on, and also counsel objects to any assumption on the part of the witness that the drills referred to as the Minneapolis Shoe Drill said to have been sold by the Minnesota Moline Plow Co. during 1895 as the drills manufactured by the National Drill Co., as there is no evidence in this case that they were the same drills.

Q. 6. From your review of the books of the Minnesota Moline Plow Co., how many machines did the Minnesota Moline Plow Co. purchase during the period covered by your review?

A. I made no effort to determine the machines purchased by the Minnesota Moline Plow Co. My instructions were to verify the sales. Also, I could not even state the number of these infringing shoe drills sold by the Minnesota Moline Plow Co. in toto as I was only asked to verify the lists of sales which shows no total either for years, or for the entire period covered.

Q. 7. Were you able when you reviewed the books of the Minnesota Moline Plow Co., to determine how many drills manufactured by the National Drill Co. of Dublin, Ind., were purchased by the Minnesota Moline Plow Co.?

A. No. The only information I was able to glean from the books of the company was that they purchased three lots of merchandise from the National Drill Co. The first in March, 1893, value $1,900.00, the second in February, 1895, value $2,290.75, and the third, in March, 1895, value $2,284.10. I was unable to get the details of these purchases

and as far as I could ascertain, they are the only transactions between these two companies of any size.

Defendants' counsel states that he desires the objection that he has already made to be understood to apply to any and all testimony in relation to the drills manufactured by the National Drill Co. without repeating the same.

Complainant's counsel desires to offer in evidence, the schedules hereinbefore referred to and identified by the witness with the request that they be marked "Complainant's Exhibits, Shoe Drills sold by Minnesota Moline Plow Co., 1895-1896," "Errors and Omissions on Lists of Sales of infringing Shoe Drills as rendered by the Minnesota Moline Plow Co., of Minneapolis, Minn.," and "Statement showing the Shoe Drills purchased from the McSherry Manufacturing Co. of Middletown, Ohio, and sold by the Minnesota Moline Plow Company with the Purchase and Selling Prices of the same." Complainant's counsel states that such of these schedules as have not been verified by the witness will be taken up later for consideration and further proofs offered in regard thereto by other witnesses.

CROSS-EXAMINATION BY MR. BANNING.

XQ. 8. In your schedule or statement offered as "Complainant's Exhibit, Shoe Drills sold by Minnesota Moline Plow Co., 1895-1896," the shoe drills noted as sold for 1895 appear to be marked as "Minneapolis" shoe drills, while the shoe drills noted as sold for the year 1896 are headed as "Presumably McSherry Drills." As I understand you, you were not able to identify either one of these two kinds of shoe drills as being of any certain manufacturer. Is that correct?

A. That is not quite correct. A considerable number of the drills listed under the caption "Presumably McSherry Shoe Drills" were actually marked as such.

XQ. 9. As to the ones listed by you as "Minneapolis" Shoe Drills, you are unable to state whose manufacture they were, are you not?

A. No, there were no notes against these drills, except occasionally they were marked "Minneapolis." I should like to state that these were the only type of shoe drills sold during that period, namely, 1895. I listed them under the heading "Minneapolis" so that it could be later determined whether they were the National shoe drills or not.

XQ. 10. Under the caption of "Minneapolis" Shoe Drills, as you have them in your statement for 1895-1896, there were

43 drills sold, as I understand your statement, is that correct?

A. That is correct.

XQ. 11. Under the caption of "Presumably McSherry Drills," which you have down as sold for 1896, there appear to have been 168 drills sold, as I understand your statement. Is that correct?

A. That is correct.

XQ. 12. Of these 168 drills, which you have presumed to be "McSherry" drills, you found only 8 that were designated on the books of the Minnesota Moline Plow Co., with the letters "McS." Is that correct?

A. That is correct.

XQ. 13. Were you able to identify the other 160 as of any particular manufacture?

A. No, to the best of my remembrance, as far as my notes informed me, these drills were simply described as "shoe drills."

XQ. 14. Why did you include them under a heading which presumed that they were McSherry drills?

A. Because, the books of the company show that during that season, the company were buying McSherry shoe drills, and as they previously dealt in the Minneapolis shoe drill which was almost invariably so marked, and as there are none of these sales except in the 1896 season, I presumed that they would be selling the McSherry drills during that season.

XQ. 15. As I understand, the reason which caused you to conclude that the 8 drills marked "McS." were McSherry drills, was because of the letters "McS" which you found on the books in connection with them. Is that correct?

A. No, that is not correct. I should have listed all shoe drills found as sold during that period however they might have been marked, but of course I should have noted such markings, if any there were. But these drills would have appeared in my lists just as much if they had not been marked, because I was listing all shoe drills sold as to the best of my knowledge as gathered from the books of the company, they only selling the McSherry drill during that season.

XQ. 16. But what I want to know is why you thought these 8 drills which had the letters "McS" on the books in connection with them, were McSherry drills.

A. I had no reason for thinking they were McSherry drills any more than the other 160 drills. My reason stated being that I gathered that only the McSherry drills were dealt in in that season. Of course, the fact that they were the initials "McS" against certain of the drills was easily accounted for by the fact that this was a marking placed on the invoice for the convenience of the purchaser of these drills and did not actually affect the Moline Co. at all.

XQ. 17. As a matter of fact, there was nothing on the books which showed certainly whether the 160 drills that you found sold for the year 1896 were really McSherry drills or the manufacture of somebody else, was there?

A. Nothing beyond the fact as stated, that I found the McSherry drills were dealt in in that period.

Adjourned to meet at 1:30 P. M.
Met pursuant to adjournment.

XQ. 18. One of the statements or schedules which you have produced which has been offered in evidence as "Errors and Omissions on Lists of Sales, etc.," appears to cover the period from February, 1897, until in December, 1903, as I understand it. Please state what changes or modifications you find as shown by this statement should be made in the exhibit offered as "Statement showing shoe drills purchased of the McSherry Manufacturing Co. of Middletown, Ohio, and sold by the Minnesota Moline Plow Co. with the Purchase and Selling Prices of the same."

A. The list I rendered shows the additions and deductions both as regards quantities of different sizes of drills and costs and selling prices of same that should be made to the original lists as rendered by the Moline Plow Co. I have made no summary of these results, but could readily do so.

XQ. 19. Did you find that the Minnesota Moline Plow Co. had reported a less number purchased and sold again than you found on examination of the books?

A. For the period covered by the list rendered by them, I find when I put the yearly results of my investigation together, that I decrease the figures rendered by the Minnesota Moline Co. by nine drills.

XQ. 20. Did you find any material change in your examination of the books, in the price at which the Minnesota Moline Plow Co. reported that they had purchased and the price at which they reported they had sold the drills included in their report?

A. No material changes at all, merely small errors, evidently clerical, and the final results would bring some decrease in the total amount of those selling and cost prices.

XQ. 21. That decrease grew out of the fact that you found there were a greater number of machines returned than appeared in the report furnished by the Minnesota Moline Plow Co., did it not?

A. That is so. I found that the additional returns and the machines entered as sales in error more than counterbalanced the machines omitted.

XQ. 22. If you can, you may state how many more you

found to have been returned and entered in error than you found to have been omitted in their statement of purchase and sales.

A. On putting the results together, I find nine drills in addition, which should be credited to the company.

XQ. 23. At the top of these reports furnished by you, I find a series of numbers at the top of columns, as 14, 16, 18, 20, and 22, on the one report, and 15, 17, and 22 on the other. Are these figures intended to represent the number of shoes that the drills contained?

A. Yes.

XQ. 24. The figures in the columns below the numbers at the top referred to in the last question are intended to show the number of drills, are they?

A. That is so.

XQ. 25. I notice in these three reports that have been offered in evidence, two columns, marked "Purchase Price," and "Selling Price," or the words "Cost" and "Sold." As I understand, the figures under these words are intended to show the gross purchase price at which the Minnesota Moline Plow Co. got their drills and the gross selling price at which they subsequently sold them. Is this correct?

A. That is my understanding. I should remark that these figures are taken from the Sales Book of the company and on those Sales Books they always show the cost of any article, price for which that article is sold, the difference being the gross profit made on the same. The figures that they put on these Sales Books as Cost Prices or Purchase Prices, I did not verify beyond the Sales Books.

XQ. 26. Have you ever testified before as an accountant in a suit for the infringement of a patent?

A. Yes.

XQ. 27. In what case or cases?

A. In the case of Dowagiac Manufacturing Co. vs. Brennan & Co. et al.

XQ. 28. In your examination of the books of the Minnesota Moline Plow Co. did you note that some of the machines were sold in Canada?

A. The list shows addresses of the various purchasers of these drills and in every case where drills were sold in Canada, it would be so noted.

XQ. 29. I notice in the report or statement furnished by the Moline Co., as well as in the two reports furnished by you offered in evidence, the letters "Man." following the name of the place or town. Is this to indicate Manitoba, Canada?

A. It is.

FRED W. HART.

Deposition of Albert C. Barber

ALBERT C. BARBER, being duly sworn, deposes on behalf of complainant, as follows:—

Q. 1. Please state your name, age, residence and occupation.

A. Albert C. Barber, age 36, Moline, Ill., trade manager Moline Plow Co.

Q. 2. Are you connected in any way with the Minnesota Moline Plow Co., the defendant in this case?

A. Only so far as my position with the Moline Plow Co. relates to the Minnesota Moline Plow Co.

Q. 3. State in what way the Moline Plow Co. is connected with the Minnesota Moline Plow Co.

A. The Moline Plow Co. sell the goods they manufacture to the Minnesota Moline Plow Co. for certain territory in the Northwest.

Q. 4. Did you at any time prepare or have prepared a list or statement showing the number of shoe drills purchased from the McSherry Manufacturing Co. of Middletown, Ohio, and sold by the Minnesota Moline Plow Co., with the purchase and selling prices of the same?

A. The list referred to was made under my direction at the time I was manager for the Minnesota Moline Plow Co., Minneapolis, Minn.

Q. 5. Is this schedule which is marked "Complainant's Exhibit, Statement showing the Shoe Drills purchased from the McSherry Manufacturing Co., of Middletown, Ohio, and sold by the Minnesota Moline Plow Co. with the purchase and selling prices of the same," a typewritten copy of the list or statement referred to by you in your former answer?

A. It is.

Q. 6. Was the list or statement made up from the books of the Minnesota Moline Plow Co.?

A. They were made from the Sales Books of the Minnesota Moline Plow Co.

Q. 7. Were you manager for the Minnesota Moline Plow Co., Minneapolis, Minn., at the time the decree was entered in this case?

A. I was.

Q. 8. Did you as manager send out or have sent out to your customers, and to others, circulars, or other advertising matter offering for sale the McSherry shoe drills that the Minnesota Moline Plow Co. then had on hand?

A. My remembrance is that no circulars or advertising matter were sent out after the decree was entered.

Q. 9. Was any effort made by the Minnesota Moline Plow Co. to dispose of McSherry shoe drills which they had on hand after the entry of the decree in this case?

Defendants' counsel objects to this question as immaterial to the issues presented in this accounting.

A. There was.

Q. 10. State fully what was done by the Minnesota Moline Plow Co. to dispose of the McSherry shoe drills as referred to in the preceding question.

Defendants' counsel objects to the matter inquired into in the above question and in all questions which may be asked relating to the same, as immaterial to the issues in this accounting and as relating to matters disposed of in the two or three contempt proceedings that have been already had in this case.

A. Through the regular course of jobbing business.

Q. 11. Do you recall if any sale of two 22-shoe drills were sold by the defendant company on April 4th, 1903, to Baptie & Sing, of Barnsville, Minn., for the sum of $150.00?

A. I recall this sale to Baptie & Sing, of two 22-shoe drills and also wish to state that this firm did not sell these drills and that they are now in possession of the Minnesota Moline Plow Co.

Complainant's counsel objects to the foregoing answer, as not being wholly responsive to question and as volunteering information not called for.

Q. 12. How do you know that these two machines just referred to were not sold by the above mentioned firm?

A. From the fact that in the settlement made by the Minnesota Moline Plow Co. with the firm of Baptie & Sing, these drills are shown to be turned over to the Minnesota Moline Plow Co. as part payment of their obligations, and also from correspondence from Baptie & Sing, requesting the Minnesota Moline Plow Co. to relieve them of the drills as they were unable to sell them.

Q. 16. Was this settlement which you have referred to made while you were manager of the Minnesota Moline Plow Co.?

A. It was not.

Q. 17. Was this correspondence with Baptie & Sing, to which you have referred, carried on while you were manager of defendant company?

A. Part of it.

Q. 18. Did the firm of Baptie & Sing request the Minnesota Moline Plow Co. to take back these two machines when you were manager of the Minnesota Moline Plow Co.?

and that the same were completed on the above date; and that the several exhibits offered have been by me duly certified and marked in evidence.

I further certify that I am not related by blood or marriage to any of the parties in controversy, nor interested directly or indirectly in the event of this suit.

In witness whereof, I have hereunto set my hand and seal this 10th day of July, 1905.

ABNER M. MOON,
Notary Public.

(SEAL)

My commission expires Jan. 20, 1909.

Met pursuant to agreement of counsel Thursday, June 29th, 1905.

Present: Mr. Fred L. Chappell for complainant and Mr. Thomas A. Banning for defendant.

MR. O. SCHMALZRIED, having been first duly sworn, deposed and testified in response to interrogatories by Mr. Chappell: —

Q. 1. State your name, age, residence and occupation.

A. Name, O. Schmalzried, age 44, residence, Dowagiac, Mich., occupation bookkeeper for Dowagiac Manufacturing Company.

Q. 2. Are you familiar with the customers of the Dowagiac Manufacturing Co. and their addresses?

A. I am.

Q. 3. I call your attention to complainant's exhibit "Statement showing the shoe drills purchased from the McSherry Manufacturing Co. of Middletown, Ohio, and sold by the Minnesota Moline Plow Co., with the purchase and selling prices of the same," and ask you if you have carefully examined that list?

A. I have.

Q. 4. I ask you to indicate on the list the names of persons who had formerly or at any time been customers of the Dowagiac Manufacturing Co. for shoe grain drills and also to indicate any towns where the Dowagiac Manufacturing Co. had dealers handling their goods, other than those named in this list. Please indicate if you have done so and indicate the method by which you have made such indications.

A. They did.

Q. 19. State how or why you know that these two machines were returned by Baptie & Sing to the defendant company, and how you know they are at the present time in the possession of the defendant company.

A. I saw in the office of the Minnesota Moline Plow Co. a list of goods turned over to them by Baptie & Sing, and among other goods, were these drills, and I was told by Mr. Durkee, the present manager of the Minnesota Moline Plow Co., that the drills were still in the possession of the Minnesota Moline Plow Co.

Q. 20. Do you remember if a 16-shoe drill was sold by the defendant company on the 24th of April, 1903, to A. Brandt, of St. Paul Park, Minn.?

A. On the date named, Mr. Durkee, who was at that time my assistant manager, came to me and stated that the manager for the Dowagiac Manufacturing Co. wished to buy a McSherry drill, and asked if he should sell him and at what price. I told him to go ahead and make the sale and to charge him cost with freight added for the bill. I do not know the gentleman's name but presume this is the drill which is marked as shipped to A. Brandt, St. Paul Park, Minn.

Q. 21. Did the Minnesota Moline Plow Co., during the time you were manager, and subsequent to the entry of the decree in this case, send out any circular letters to the jobbers, relative to the McSherry shoe drills the defendant company then had on hand?

A. If I remember correctly, there was one circular letter sent out to the trade.

Q. 22. Do you recall the substance of that circular letter?

A. I do not.

Cross-examination waived.

ALBERT C. BARBER.

STATE OF MICHIGAN, } ss.
COUNTY OF CASS, }

I, Abner M. Moon, a Notary Public in and for said county and State, do hereby certify that proceedings were had herein as stated in the caption hereto; that on June 27th, 1905, I was attended by Fred L. Chappell and W. C. Margeson, on behalf of complainant, and Thomas A. Banning, on behalf of defendants; that Fred W. Hart and Albert C. Barber were produced before me as witnesses on behalf of complainant, and were by me duly sworn; that the said depositions were taken on a typewriting machine under my supervision and direction,

Deposition of Otto Schmalzried

A. I find on the list the names of the following parties who have been dealing with the Dowagiac Manufacturing Co., viz:—

H. Stege, Nicollet, Minn.
Townsend & Marshall, Sauk Center, Minn.
F. Coldammer, Lakota, N. D.
Clara City Mercantile Co., Clara City, Minn.
Wimbledon Machine Co., Wimbledon, N. D.
J. P. Reiton, Gilby, N. D.
G. O. Hoggen, Northwood, N. D.
W. Casement, Inkster, N. D.
Qualey Bros & Hansen, Kindred, N. D.
C. E. Clure, New Rockford, N. D.
M. E. Hawk, Buffalo, N. D.
Ing. Moen, Hunter, N. D.
Oliver Bros., Hudson, Wis.
McEwan & Dougherty, Park River, N. D.
H. Bennett, Larimore, N. D.
Besenius & Eich, St. Cloud, Minn.
A. A. Colgrove, Faulkton, S. D.
Geo. Campbell, Walhalla, N. D.
W. G. Wells & Co., Mansfield, S. D.
J. J. E. Guertin, Willow City, N. D.
H. L. Beiseker, Fessenden, N. D.
E. Ertresvaag, Bottineau, N. D.
Westonson & Johnson, Hallock, Minn.
E. O. Berg, Madison, Minn.
Ganssle & McIntosh, St. Thomas, N. D.
Russel Bros., Stephen, Minn.
C. V. Brown, Cathay, N. D.
Clure Impl. Co., New Rockford, N. D.
Qualey Bros., Kindred, N. D.
Jacobson & Peterson, Elbow Lake, Minn.
S. Collins, Grand Forks, N. D.
Chas. Aldrich, Henry, S. D.
F. W. Reynolds, Bathgate, N. D.
N. Lundgren, Atwater, Minn.
Clure Bros., New Rockford, N. D.
Princeton Hdwe. Co., Princeton, Minn.
Wilson & Nayes, Pingal, N. D.
Geyer Bros., Ortonville, Minn.
F. Voyek, Lidgerwood, N. D.
Watsche & Hansing, Morton, Minn.
C. F. W. Mellenthin, Sleepy Eye, Minn.
H. H. Griffin, Marietta, Minn.
Max Schultz, New Salem, N. D.
J. L. Hollenbach, Mansfield, S. D.
Miller & Hanson, Willow City, N. D.

Sletten Bros., Hoffman, Minn.
Jordan Bros., Beardsley, Minn.
Ertresvaag & Mork, Souris, N. D.
Wright & Stevens, Crary, N. D.
Flaa Bros., Boyd, Minn.
McEwan, Dougherty & Shuley, Edinburg, N. D.
Congram & Connor, Inkster, N. D.
Monson Bros., New London, Minn.

Answering that part of your question which asks for the names of towns in which both the Dowagiac Manufacturing Co. and the Minnesota Moline Plow Co. had agents—different agents—I name the following:—

Webster, S. D.
Elbow Lake, N. D.
Odessa, Minn.
Aberdeen, S. D.
Redfield, S. D.
Graceville, Minn.
Langdon, N. D.
Fosston, Minn.
Argyle, Minn.
Warren, Minn.
New Salem, N. D.
Willmar, Minn.
Ralla, N. D.
Dawson, Minn.
McIntosh, Minn.
Wahpeton, N. D.
Eureka, S. D.
Hillsboro, N. D.
Hazel, S. D.
Towner, N. D.
Boyd, Minn.
New Prague, Minn.
Crookston, Minn.
Bryant, S. D.
Hutchinson, Minn.
Tyler, Minn.
Springfield, Minn.
Jeffers, Minn.
Carrington, N. D.
Appleton, Minn.
Bellevue, Minn.
Park River, N. D.
Montevideo, Minn.
Granite Falls, Minn.
Valley City, N. D.
Blue Earth, Minn.
Churchs Ferry, N. D.
Fertile, Minn.
Kerkhoven, Minn.
Melette, S. D.
Hermann, Minn.
Rennville, Minn.
Portage la Prairie, Man.
Cavalier, N. D.
Hawley, Minn.
Winnipeg, Man.
Canby, Minn.
Leeds, N. D.
Murdock, Minn.
Evan, Minn.
Lowry, Minn.
Minto, N. D.
Taunton, Minn.
Wilmot, S. D.
Fergus Falls, Minn.
Stewart, Minn.
Estelline, S. D.
Lamberton, Minn.
Jackson, Minn.
Mayville, N. D.
Elmore, Minn.
Watertown, S. D.
Milner, N. D.
Sisseton, S. D.
Cottonwood, Minn.
Hendricks, Minn.
Devils Lake, N. D.
Lakota, N. D.

York, N. D.
Kennedy, Minn.
Winona, Minn.
Rushford, Minn.
Mandan, N. D.
St. Paul Park, Minn.
St. James, Minn.
Albert Lea, Minn.
New Ulm, Minn.
Perth, N. D.
Barnesville, Minn.

Q. 5. Will you please produce a list of dealers with whom the Dowagiac Manufacturing Co. have had contracts in the Manitoba district?

A. I will and do. This statement contains a list of dealers together with the address and the date of each contract.

Defendants' counsel objects to the information inquired about in the question above and given in the answer on the ground that it is irrelevant inasmuch as it relates to contracts with parties in Canada, and not in the United States.

By complainant's counsel: The list referred to by the witness is hereby offered in evidence with request that it be marked: "Complainant's exhibit Manitoba list."

Defendants' counsel objects to the offering in evidence of the Manitoba list on the grounds and for reason stated above.

CROSS-EXAMINATION BY MR. BANNING.

XQ. 6. Is it not a common thing for agents to sell the goods—I mean the same kind of goods—of different makers?

A. Of that I cannot state for the reason I am not familiar with the practice of the dealers as I have never been out in the field.

XQ. 7. Are there not names on this list "Complainant's Exhibit Statement showing the shoe drills purchased from the McSherry Manufacturing Co. of Middletown, Ohio., etc.," who after they had been selling drills for the Minnesota Moline Plow Co. became agents for the drills of the Dowagiac Manufacturing Co.?

A. Yes, there are.

XQ. 8. About how many are there?

A. Of that I have made no estimate.

XQ. 9. Are there not about as many as you gave in the list in answer to complainant's counsel?

A. On that I can give no information as I have made no estimate or comparison when checking up the statement.

XQ. 10. In answering Q. 4 you gave the names of a number of parties who at one time or another were customers of the Dowagiac Manufacturing Co. Had all of these parties been customers of the Dowagiac Manufacturing Co. before they became customers of the Minn. Moline Plow Co.?

A. No, not all.

XQ. 11. Your information that these parties were customers at some time or other of the Dowagiac Manufacturing Co. was derived from the books of the company, was it?

A. Yes, and in handling the business of the company.

O. SCHMALZRIED.

Signature in the presence of the notary waived.

STATE OF MICHIGAN, }
COUNTY OF CASS, } ss.

I, Abner M. Moon, notary public in and for Cass county, Michigan, do hereby certify that, on July 29th, 1905, at the office of the Dowagiac Manufacturing Company, Dowagiac, Michigan, I was attended by Fred L. Chappell, Esq., on behalf of complainant herein, and Thomas A. Banning, Esq., on behalf of defendants; that Otto Schmalzried was produced before me as a witness on behalf of complainant and was by me duly sworn; that the said deposition was taken on a typewriting machine under my supervision and direction; that the said deposition was completed on the above date; and that the exhibit offered in evidence therein was by me duly certified.

I further certify that I am not related by blood or marriage to any of the parties in controversy, nor interested directly or indirectly in the event of this suit.

In witness whereof, I have hereunto set my hand and notarial seal.

ABNER M. MOON.

(SEAL.)

My commission expires Jan. 20, 1909.

COMPLAINANT'S EXHIBIT, "MANITOBA LIST."

June 28, 1905.

LIST OF DEALERS WITH WHOM DOWAGIAC MANUFACTURING CO. HAD CONTRACT IN THE MANITOBA DISTRICT. THE DATE OF THE CONTRACT BEING GIVEN.

NAME	PLACE	DATE
McLeod & Hanley	Brandon, Man.	12-14-96
W. H. Saults & Co.	Boissevain, Man.	9-13-97
McLeod & Hanley	Brandon, Man.	8-7-97
J. H. McConnell	Hamiota, Man.	12- 8-97

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Complainant's Exhibit "Manitoba List"

NAME	PLACE	DATE
McNamee & Daly	Killarney, Man.	12- 3-97
Geo. Ashdown	Morden, Man.	12- 1-97
Winram Bros.	Manitou, Man.	11-30-97
I. P. Porter	Portage la Prairie, Man.	12-10-97
Johnson & Stewart	Winnepeg, Man.	12-14-97
Robert Scott	Shoal Lake, Man.	4-16-98
McLeod & Hanley	Brandon, Man.	7-23-98
Taylor & Frazer	Beulah, Man.	7-23-98
Marshall, Blanchard & Co.	Carman, Man.	12-31-98
Alex. Smith	Gretna, Man.	12-10-98
J. H. McConnell	Hamiota, Man.	7-22-98
McNamee & Daly	Killarney, Man.	12- 9-98
Geo. Ashdown	Morden, Man.	12- 6-98
Wilbert Ross	Manitou, Man.	12- 7-98
Wagner Bros.	Plum Coulee, Man.	12- 5-98
I. P. Porter	Portage la Prairie, Man.	12-16-98
Currie & Burland	Souris, Man.	7-22-98
Robert Scott	Shoal Lake, Man.	12-14-98
McLeod & Hanley	Brandon, Man.	7-22-99
M. M. McKim	Elkhorn, Man.	8-29-99
J. T. Humphrey	Griswold, Man.	8-29-99
Alex. Smith	Gretna, Man.	8-15-99
J. H. McConnell	Hamiota, Man.	7-24-99
Geo. Ashdown	Morden, Man.	8-15-99
Wilbert Ross	Manitou, Man.	8-12-99
John Caughlin	Mather, Man.	7-18-99
G. A. Denwoody	Neepawa, Man.	7-27-99
Wagner Bros.	Plum Coulee, Man.	11- 1-99
Alex. Menzies	Shoal Lake, Man.	7-25-99
Currie & Burland	Souris, Man.	7-13-99
Chas. Aimee	Emerson, Man.	3- 3-00
McLeod & Hanley	Brandon, Man.	11- 3-00
Chas. Aimee	Emerson, Man.	11-7-00
Alex. Smith	Gretna, Man.	10-22-00
McNamee & Daly	Killarney, Man.	12- 5-00
Geo. Ashdown	Morden, Man.	10-23-00
Wilbert Ross	Manitou, Man.	11- 7-00
John Caughlin	Mather, Man.	12- 7-00
Wagner Bros.	Plum Coulee, Man.	3-21-01
I. P. Porter	Portage la Prairie, Man.	10-29-00
Alex. Menzies	Shoal Lake, Man.	10-30-00

Complainant's Exhibit "Manitoba List"

NAME	PLACE	DATE
Currie & Burland	Souris, Man.	11- 7-00
Pepper & Coote	Stonewall, Man.	2-19-01
McLeod & Hanley	Brandon, Man.	11-18-01
Chas. Aimee	Emerson, Man.	4-16-02
Alex. Smith	Gretna, Man.	11-12-01
A. J. Ingley & D. Ewart	Indian Head, Assa.	1- 8-02
McNamee & Daly	Killarney, Man.	11-20-01
Jas. G. Mutch	Lumsden, Can.	1- 9-02
Geo. Ashdown	Morden, Man.	2-21-02
Wilbert Ross	Manitou, Man.	11-21-01
John Caughlin	Mather, Man.	11-20-01
McKay, Cochrane Co.	Plum Coulee, Man.	3-22-02
J. & E. Brown	Portage la Prairie, Man.	11-14-01
Vicars & Morgan	Qu Appelle, Assa.	2-18-02
Currie & Burland	Souris, Man.	11-19-01
Balfour Implement Co.	Winnepeg Implement Co.	1- 2-02
Scott & Lawton	Alemada, Assa.	1- 7-03
Murcheson & Howson	Aulum, Man.	1- 6-03
McLeod & Hanley	Brandon, Man.	11-17-02
Andrew Odegaard	Claresholm, Can.	1-21-03
Brownsberger & Burrows	Deloraine, Man.	11-25-02
Kenno Bros.	Estevan, Assa.	1-20-03
Alex. Smith	Gretna, Man.	11-20-02
C. F. Gabriel	Gladstone, Man.	12-18-02
A. J. Ingley & D. Ewart	Indian Head, Assa.	11-13-02
McNamee & Daly	Killarney, Man.	11- 8-02
Jas. G. Mutch	Lumsden, Can.	11-14-02
Geo. Ashdown	Morden, Man.	11- 6-02
Wm. Winram	Manitou, Man.	11- 7-02
Hector McLean	Mather, Man.	11- 8-02
J. & E. Brown	Portage la Prairie, Man.	2-22-03
Vicars & Morgan	Qu Appelle, Assa.	11-13-02
John Hamm	Rosthern, Can.	12- 6-02
T. H. & D. McNaught	Rapid City, Man.	1-29-03
Hastings & Kissack	Rouleau, Assa.	1-23-03
F. V. Young	Souris, Man.	2- 3-03
O. Tourigny	Wolseley, Assa.	1-14-03
R. H. Orr	Boissevain, Man.	1-30-04
McLeod & Hanley	Brandon, Man.	11-14-03

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Complainant's Exhibit "Manitoba List"

NAME	PLACE	DATE
C. Dumond, Hay	Belmont, Man.	3- 4-04
Christian & Johnson	Baldur, Man.	4-15-04
Joseph Shaw & Co.	Beausejour, Man.	4-15-04
F. E. Smith	Carman, Man.	3-24-04
Sutherland & Stelk	Dauphin, Man.	1-13-04
B. H. Dial	Elgin, Man.	3- 3-04
J. J. Holiday	Elm Creek, Man.	3-23-04
W. Juelfs & Co.	Gretna, Man.	1-14-04
McLeod Bros.	Grenfell, Assa.	1-19-04
W. F. Condie	Goodlands, Man.	2- 2-04
McConnell & Watson	Hamiota, Man.	2- 8-04
Geo. Thompson	Indian Head, Assa.	1-23-04
McNamee & Daly	Killarney, Man.	11-19-03
Shopland & Wallace	Langdenburg, N. W. T.	12- 3-03
R. E. Fostel	Lyleton, Man.	2- 3-04
Linneus Watson	Morden, Man.	11-20-03
Winram & Clark	Manitou, Man.	1-21-04
Hawson & Murchison	McKenzieville, Man.	11-23-03
C. H. Carbonneau	Mariapolis, Man.	3- 9-04
J. Gamey	Newdale, Man.	4-22-04
McKay Cochrane Co.	Plum Coulee, Man.	1-18-04
E. J. Parker	Pipestone, Man.	12- 5-03
D. B. Graham	Pilot Mound, Man.	1-23-04
J. H. McNaught	Rapid City, Man.	11-25-03
Stewart Bros.	Rosenfeld, Man.	1-15-04
J. H. McLean	Shoal Lake, Man.	11-24-03
F. V. Young & Co.	Souris, Man.	11-14-03
Wm. J. Bell	Saskatoon, Sask.	11-26-03
Morrison & Crawford	Strathclair, Man.	12- 5-03
Thos. Bradford	Saltcoats, Assa.	12- 2-03
Holland & Cornelinson	Starbuck, Man.	3-22-04
Dozois & Marcil	St. Jean, Man.	5- 5-04
O. Tourigney	Wolseley, Assa.	11- 9-03
Friesen & Miller	Winkley, Man.	1-19-04
Woodworth & Thompson	Weyburn, Assa.	2-29-04
Levi Beck	Yorkton, Assa.	12- 2-03

Notice to take Testimony

CIRCUIT COURT OF THE UNITED STATES

FOR THE DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In the Matter of the Accounting before Geo. F. Hitchcock, Jr., Special Master:—

To Messrs. Banning & Banning, Counsel for Defendants:

SIRS: Please take notice that on Wednesday, July 12th, at ten o'clock in the forenoon, at the office of the Clerk of the United States Circuit Court in the Postoffice Building, Minneapolis, Minnesota, I shall proceed to take testimony on behalf of complainant in this cause, before Geo. F. Hitchcock, Jr., Master.

FRED L. CHAPPELL,
Counsel for Complainant.

Kalamazoo, Michigan, July 7th, 1905.

Deposition of Sylvester C. Swayne

UNITED STATES OF AMERICA

DISTRICT OF MINNESOTA, FOURTH DIVISION

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In an accounting before George F. Hitchcock, Jr., Special Master.

Testimony taken on behalf of complainant pursuant to consent of counsel before the said Master at his office in the Post-office building, city of Minneapolis, Minn., beginning July 12th, 1905, at eleven o'clock in the forenoon.

Present: Fred L. Chappell, Esq., on behalf of complainant, Thomas A. Banning, Esq., on behalf of defendants.

SYLVESTER C. SWAYNE, having been first duly sworn and cautioned, deposed and testified as follows in response to questions by Mr. Chappell:—

Q. 1. State your name, age, residence and occupation?

A. Sylvester C. Swayne, 48, Minneapolis, Minn. General agent for the Dowagiac Manufacturing Co.

Q. 2. Please state your experience with the Dowagiac Manufacturing Co., the complainant herein, giving the time when you entered their employment, the capacity of your employment from time to time, and the territory which you have covered in your capacity as salesman or agent?

A. I think I entered their employ sometime in July, '96, at Fargo, N. D. I traveled in that territory and had charge of it practically until November last, when I moved to Minneapolis. I had charge of the contract work, traveled in that territory almost constantly and negotiated their settlements for them.

Q. 3. How extensive was the territory which you covered?

A. Western Minnesota, all of North Dakota and northern part of South Dakota, and Canada west of Winnepeg.

Q. 4. You will please describe briefly the construction of Dowagiac drills which you sold in that territory, stating the kind you sold at the beginning, any developments or changes as to species or kinds of drills later on, if such changes occurred?

A. The drills first sold were our regular construction shoe drills, with long pressure spring, until about the year 1900 we put out some double disc drills, the bulk of our trade was shoe drills.

Q. 5. Are you familiar with the McSherry shoe drill which has been held to infringe in this case?

A. Yes.

Q. 6. Please state to what extent and how extensively in your territory you came into contact with the said infringing drill, and whether or not in your judgment, Dowagiac shoe drills would have been sold in place of the said McSherry shoe drills had not the McSherry shoe drills come into competition?

By Mr. Banning: Defendants' counsel objects to the latter part of the question as being leading and calling for the mere opinion or estimate of the witness.

By Mr. Chappell: The latter portion of the question is withdrawn. That is, that part asking the witness for his opinion as to whether Dowagiac shoe drills would have been sold in place of the said McSherry shoe drills had not the McSherry shoe drills come into competition.

A. I came in competition with the McSherry drill at practically every point in my territory.

Q. 7. I call your attention specifically to complainant's exhibit, statement showing shoe drills purchased from the McSherry Manufacturing Co., of Middletown, Ohio, and sold by Minnesota Moline Plow Company, with the purchase and selling prices of same, and ask you to glance over this list; state in a general way how selling prices compare with prices at which you sold Dowagiac shoe drills of corresponding sizes, and state whether or not these sales were made in the territory covered by you?

A. The prices named on this list are much lower than the prices at which I sold drills in my territory, and many of the names of purchasers on this list were dealers to whom I sold Dowagiac drills.

Q. 9. Please state briefly the features of the infringing drill which enabled it to compete with the Dowagiac drill in this territory, and the feature or features of the said infringing drills that were controlling in the making of sales in this territory?

A. Owing to the conditions of the soil in the northwest generally, it was necessary to use what we termed the long rod or spring pressure which is used on the Dowagiac drill, and as the McSherry spring pressure was similar to the Dowagiac it came in direct competition.

Direct examination closed.

CROSS-EXAMINATION MY MR. BANNING.

XQ. 10. In answering question six you say that you came into competition with the McSherry drill at practically every point in your territory. Please state each of the other kinds of drills that you came into competition with in your territory during the same period, and the years as near as you can when you came in competition with such drills?

A. Kentucky, Van Brunt, Monitor, Cassopolis, Peoria, Empire, Fountain City, and in fact most every drill that is manufactured, from the time I went into the drill business up to the present time.

XQ. 11. You mean that this competition with the drills that you have just mentioned extended from the beginning of your employment up to the present time?

A. Yes.

XQ. 12. I believe the McSherry drill sold by The Minnesota Moline Plow Company did not have press wheels to close the furrows. Did they have chains, dragging behind, or what did they have?

A. Covering chains are used generally in the northwest.

XQ. 13. Why?

A. The condition of the soil in the northwest is such that when it is wet, which is the case most of the time when they are seeding, the soil will roll up on the press wheels and leave the grain uncovered.

XQ. 14. In the condition of soil which generally prevails during the time that drills are used in your territory, press wheels would be a detriment rather than an advantage, would they not?

A. They cannot be used when the soil is wet, but can be used when the soil is dry.

XQ. 15. I believe you have said that the ground is wet most of the time that seeding is being done. That is the case is it not?

A. Generally the ground is wet in the spring in the northwest, occasionally we have a dry spring.

XQ. 16. Most of the seeding in your territory is done during the spring, is it not?

A. Yes.

XQ. 17. Most of the wheat grown in the northwest is spring wheat isn't it?

A. Yes.

XQ. 18. You say that you began with the Dowagiac Company sometime in July, 1896. Prior to that time, had you had anything to do with drills of any kind for seeding grain?

A. Yes.

XQ. 19. With shoe drills?

A. Yes.

XQ. 20. Please tell us when your experience with shoe drills began?

A. About 1889.

XQ. 21. You have been asked about certain features in shoe drills and mentioned the long rod or spring pressure that was used on the Dowagiac drill and on the McSherry drill. I desire to ask you about various features that may be considered as necessaries or essentials, whether contained in the Dowagiac or the McSherry drills. In all practical and successful shoe drills there is a boot or upright tubular portion, a shoe or runner, having flaring sides between which the lower end of the boot opens, and drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground. Are not these features essential to any practical shoe drill?

A. It is necessary that the drag bars are on a pivot to conform to the uneven surface of the ground. The boot is used only as a conveyor for the grain from the box to the shoe, and for the purpose of fastening the shoe to the boot. It is only necessary that a shoe flares sufficiently at the top to admit the lower end of the boot, or discharge.

XQ. 22. In all practical and successful shoe drills, there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens and drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground. Are not these features essential to any practical shoe drill?

A. Yes.

XQ. 23. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and means for pressing or forcing the shoe into the ground to open the furrow the desired depth. Are not these features essential to any practical shoe drill?

A. Yes.

XQ. 24. In all practical and successful shoe drills there is

a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and means for raising the shoe or runner out of and holding it above the ground for the purposes of transportation or going from one field to another. Are not these features essential to any practical shoe drill?

A. Yes, in the territory in which I am familiar.

XQ. 25. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and means for closing or filling the furrows made by the shoe or runner. Are not these features essential to any practical shoe drill?

A. The first part of question, yes. In certain conditions of ground it is necessary to have means for closing the furrow.

XQ. 26. In the conditions of ground that generally prevail in your territory during the seeding period, is it not necessary to have means of some kind for closing or filling up the furrow?

A. Yes.

XQ. 27. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and a frame to which a plurality of shoes or runners may be attached through their drag bars. Are not these features essential to any practical shoe drill?

A. Yes.

XQ. 28. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, a frame to which a plurality of shoes or runners may be attached through their drag bars, and a seed box mounted on the frame for carrying a supply of seed. Are not these features essential to any practical shoe drill?

A. Yes.

XQ. 29. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and a flexible hose or telescopic con-

duit to convey grain from the seed box to the tubular boot without permitting the connection between the seed box and the tubular boot to be broken or interrupted by the movements of the shoe or runner while following the undulations of the ground. Are not these features essential to any practical shoe drill?

A. Yes.

XQ. 30. You have mentioned a number of drills that came into competition with the Dowagiac drill during the period that you were agent for the same. As I understand you, the drills that you mentioned in your answer to cross-question ten were shoe drills. Is that correct?

A. Yes.

XQ. 31. In your answer to cross-question ten, did you include other kinds of drills than shoe drills? If not, please mention all other kinds of drills—disc drills or hoe drills—that you were in competition with while selling the Dowagiac shoe drills?

A. Disc drills came into competition about 1902; we use no hoe drills in our territory.

RE-DIRECT EXAMINATION BY MR. CHAPPELL.

RDQ. 32. Were there unpatented drills sold in competition with the Dowagiac shoe drills in your territory at any time since you have been familiar with the territory, to your knowledge?

A. No.

RE-CROSS-EXAMINATION BY MR. BANNING.

RXQ. 33. The patents on the drills referred to in the last question and answer related to various improvements of different kinds, did they not?

A. I presume so.

SYLVESTER C. SWAYNE.

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In the matter of accounting before the Master, George F. Hitchcock, Jr.

Testimony taken on behalf of the complainant pursuant to consent of counsel of both parties at the office of the Dowagiac Manufacturing Co., Dowagiac, Mich., beginning at 11:00 o'clock in the forenoon July 24th, 1905, before Abner M. Moon, a notary public pursuant to stipulation and by consent of counsel.

Present: Fred L. Chappell on behalf of complainant, Thomas A. Banning on behalf of defendants.

CHARLES L. FOWLE, being called as a witness, deposes and testifies as follows in response to interrogatories by Mr. Chappell, the oath to be administered by the notary during the progress of the deposition:—

Q. 1. You are the Charles L. Fowle who gave testimony in the accounting wherein the Dowagiac Manufacturing Co. is complainant and Brennan & Co. Southwestern Agricultural Works et al. were defendants, pending in the United States Circuit Court for the District of Kentucky?

A. I am.

Q. 2. I call your attention to the list of customers of the

above named defendant with the sales of shoe drills indicated, the same being entitled "Statement showing the shoe drills purchased from the McSherry Manufacturing Co., of Middletown, Ohio, and sold by the Minnesota Moline Plow Co., with the purchase and selling prices of the same," already in evidence, and ask you to consider the territory covered there and state whether or not this territory has been covered by the Dowagiac Manufacturing Co. in the sale of shoe drills made under and in accordance with the Hoyt Patent in suit.

A. Yes, we covered all of this territory in the sale of our Shoe drill quite thoroughly. Of course there would be some towns where we would not have a customer or agency—by customer I mean a retail implement dealer selling Dowagiac drills in some particular year or several successive years, but in such cases there was usually such a representative in some nearby town, and as the territory was all covered by our traveling men, soliciting orders and contracts, and we had several hundred customers each year, all of the territory was pretty well covered.

Q. 3. Considering this list of sales to which I have just referred please state whether in your judgment the complainant would have sold Dowagiac Shoe drills of an equal amount and kind had not the defendant invaded this territory and made these sales, giving your reasons or any facts familiar to you for the answer you may make.

By Mr. Banning: Defendants' counsel objects to the question as incompetent and as calling upon the witness for a statement of his opinion as to what people might have done or not done in a supposed contingency.

A. I have good reason to believe that the Dowagiac Co. would have sold as many drills as they did with the infringing drills added, because it is certain that the demand existed for a shoe drill like the Dowagiac which was first introduced in that territory, and I believe that the total number of drills could have been sold by the Dowagiac Co. with no greater or even less expense than they were put to in selling what they did, because active competition greatly increased the cost of selling. Until 1895 I personally traveled the two Dakotas and western Minnesota and had been there in charge of the northwest territory from the introduction of the Shoe Drill in the northwest by myself in the spring of 1886, and I was very familiar with the conditions of the shoe drill trade in that territory during that period.

Q. 4. What has been your familiarity with the territory since the time indicated in your last answer and what have been your duties in that connection?

A. All of the time since then I have been located at the home office in Dowagiac in charge of the Sales Department. Part of my duties has been to control the sales work generally, make prices for each season's business, correspond with the traveling force, inspect contracts when submitted for the sale of our drills to implement dealers, and each year have made one or more trips to Minneapolis and Fargo and sometimes through the territory to see some of our customers, the dealers.

Q. 5. As an incident of your duties have you kept posted as to the grain drills in competition in the territory covered by the list of the defendants' sales under consideration?

A. I have as fully as possible, and by general current report believe that I was correctly informed of prices. In some instances to verify that I have obtained contracts written by our competitors with retail implement dealers; in other cases made photographs.

Q. 6. Please state whether or not to your knowledge any unpatented drills have been marketed in this territory during the period of dates of sales indicated in this list, and also whether or not since the introduction of the Dowagiac Shoe drill manufactured under the Hoyt patent in suit there have been any unpatented drills sold in the same territory in competition with the said Dowagiac Shoe drill.

By Mr. Banning: Defendants' counsel objects to the question as it does not appear that the witness has the requisite knowledge to express an opinion upon the question whether the drills which have been sold as indicated in the question were patented drills or unpatented drills.

A. I am quite certain that there were none with the exception of possibly some hoe drills, a few of them sold in Eastern Minnesota along the river. I made several trips south from Minneapolis during that period and found that the small farmers along the river and close to the river (Mississippi river) south to the Iowa line were using two-horse broadcast seeders mostly, but were using some hoe drills. There were no hoe drills sold west from there that I know of. The last hoe drill I saw in North or South Dakota was one at Larimore, N. D., in 1889. It was then in an implement dealer's show room.

The direct examination closed.

CROSS-EXAMINATION BY MR. BANNING.

XQ. 7. What other shoe drills were sold in the northwest territory during the period covered by this accounting besides those sold by the defendant. In answering this question please

first state those which have been held to infringe the Hoyt patent sued on and then state those which used a different kind of pressure for the shoes so as not to infringe the Hoyt patent.

A. Those which have been held to infringe: McSherry, Cassopolis, Kentucky, Richmond Champion, Buckeye, Peoria, I recall no others at present. Those which were in competition since 1894 and not held to infringe, not litigated, and some of which had coil wire spring pressure or some other pressure device of importance in competition, about in the order named were the Van Brunt, Superior, Tiger (built by Rowell Company, Beaver Dam, Wis.) The Fountain City, Monitor and the Havana, if the latter is considered a shoe drill. It has a shoe but in trade circles is distinguished as a press drill. There were some others of lesser importance in competition—the Ashurst Press Drill, which was similar to the Havana, being one of them.

XQ. 8. The press drills I believe were those which did not have carrying wheels. Is that the distinction?

A. That is the great distinction.

XQ. 9. Most of those that you have named beginning with the Van Brunt, I believe were provided with coil spring pressure for the shoes. Is that correct?

A. Yes.

XQ. 10. No suit, I believe, has ever been commenced under the Hoyt patent sued on in this case against manufacturers of shoe drills that had coil spring pressure devices for the shoes. Is that correct?

A. That is correct.

XQ. 11. No claim has ever been made that those kind of shoe drills infringed the Hoyt patent sued on. Is that correct?

A. No, that is not correct. I have stated personally to one manufacturer who built such a structure with rigid bars inside of the boot and connected with the draw bars at the forward end with a coil wire spring near that connection, that I believe it an infringement of the Hoyt patent if rightly construed, and some such structure has already been considered or passed upon in litigation under Hoyt patent.

XQ. 12. You have in your last answer mentioned a special construction in which a coil spring was used which you thought infringed the Hoyt patent sued on. Does that apply to the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, or the Ashurst drills?

A. No, to none of them.

XQ. 13. Did not the makers of the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana and the Ashurst shoe drills make and sell them freely through-

out the northwest without let or hindrance and to whoever wanted to buy and had the price?

A. Yes, so far as I know.

XQ. 14. By the northwest, I have had reference to the territory comprising the States of Wisconsin, Minnesota, the Dakotas and Western Canada. Have you so understood me?

A. Yes.

XQ. 15. I believe you stated in the original testimony in this case that the first shoe drill containing the Hoyt spring pressure device was made in the fall of 1890, or thereabouts?

A. I do not recall the evidence, but that is a fact and I remember of having exhibited one of the drills at the Minnesota State Fair, September, 1890.

XQ. 16. Prior to that time the Dowagiac Manufacturing Co. was making and selling a shoe drill in the northwest. Was it not?

A. Yes, in the spring of 1890, with a flat bar spring pressure. The preceding years with cast iron weights as attachments to the boots, when necessary for forcing them into hard ground.

XQ. 17. Did the Dowagiac Company make any change in the general construction of their shoe drills when they added the improvement of the Hoyt patent sued on?

A. No radical change. There were minor changes each year.

XQ. 18. So far as the general construction of the drills were concerned they remained the same?

A. Well, somewhat, but in prior years the lift was what we called a "chain lift," on the Hoyt patent the lift was one which was rigid from the rock shaft to the rear end of the springs, which acted to raise the shoes and also to push downward on the spring.

XQ. 19. The lift that you have mentioned was a part of the Hoyt device, was it not?

A. Yes, that was a part of the Hoyt patent, so that outside of that I now recall only a change in the feeds as the most important for several years.

XQ. 20. Then, aside from the change in the feed the general construction of the drills remained the same after the addition of the Hoyt improvement, as before. Is that correct?

A. Yes, and no, both. Before the Hoyt patent the boots were larger and much heavier. On the 1900 drill two levers were employed, one to raise the shoes by means of the change referred to, the other to apply the pressure to the shoes through the flat spring bars so that while both were shoe drills with four-foot carrying wheels, yet they were quite different construction, and the same difference is true as between the Hoyt device and

the weight drills with the exception of the lever for applying the spring pressure.

XQ. 21. Did the introduction of the Hoyt improvement on the drills necessitate any special change in the form of the shoe in the design of the frame, in the character of the feed, in the form of the grain spouts or tubes and matters of that kind?

A. Yes, it made a change in the boots necessary in that a rod spring could not be used on the wide large top boots in 6-inch row drill, so that the small boot was used, which proved a good change as it prevented mud from dropping into the top of the boots off the main wheels. Then the connection of the draw bars to the boot was discontinued and the draw bars attached to the toe of the shoe in the Hoyt device. The application of the Hoyt device did not make it necessary to change the feeds or other parts referred to.

XQ. 22. I suppose the Dowagiac Company has added improvements in details from year to year, or at least frequently, since the introduction of the Hoyt spring pressure device. Is not that the case?

A. From 1892 to 1898 inclusive there was practically no change whatever. Since then some changes have been made yearly.

XQ. 23. Manufacturers of drills practically all have their special forms and designs, and are constantly making changes in details which they secure or attempt to secure by patents so as to mark their machines as patented, and so as to have something to talk about to their customers as well as to improve the general construction of their drills. Is not this the case?

A. I believe it is, and think it a good thing for them to do so, because if there were no distinguishing features price alone would be the consideration in marketing their goods. I have never seen a machine so poor but what some were sold and had some advocates. I have never seen one good enough to secure all of the trade, but with a difference in "talking points" a better general price can be secured than with uniformity in construction.

XQ. 24. You have mentioned a number of infringing drills that have been sold in the northwest—the McSherry, the Cassopolis, the Kentucky, the Richmond-Champion, the Buckeye and the Peoria. I wish you would state in a general way about the aggregate number of these infringing drills that have been sold in the northwest in competition with the Dowagiac drills containing the Hoyt pressure device.

A. Approximately 20,000, I cannot state definitely at this time.

XQ. 25. Of these approximately 20,000, some 2,100 or

such a matter were sold by the defendant in this case. Is that about right?

A. I understand that it is.

RE-DIRECT EXAMINATION BY MR. CHAPPELL.

RDQ. 26. Please state when the last of the drills such as you refer to as having been marketed in the spring of 1890, were manufactured and sold by the complainant company. Also give the same answer as to the weight construction of shoe drills.

A. The manufacture and sale of the weight drills was discontinued in 1889, and of the flat bar pressure drill in 1890. The Hoyt device being exclusively made after that.

RDQ. 27. Please state the extent of the yearly sales of the weight shoe drill and of the flat bar pressure of 1890.

A. From one to 800 of the weight drills and about 1,000 of the flat bar pressure drills in 1890.

RDQ. 28. What portion of these sales were in the so-called northwest territory.

A. Two-thirds or three-fourths of them.

RDQ. 29. Will you please indicate so far as you are able the specific patents on the different drills in competition with the Dowagiac, introducing the copy for the patents in evidence so that their exact relation to the subject may appear? I understand that you have not this list of patents at hand and that it will be necessary for you to obtain them and annex them to your deposition.

Complainant's counsel also offers in evidence the record in the main case.

A. On the Fountain City Drill—Fockler patent No. 386394, Howard patent No. 488072, Edwards patent No. 672476.

On the Havana Press Drill—Ashurst patent No. 297961.

On the Monitor Drill the coil spring pressure was not a successful device even when made under the Van Brunt patent No. 412808, dated Oct. 15th, 1889, as appears from evidence already taken.

A patent was issued to the Monitor Company as assignees of E. H. Ackerman, No. 746432, dated Dec. 8th, 1903, for an improved spring pressure.

I have never seen one of the Ackerman structures in the field or in the market. Complainants informed the Monitor Company immediately after the Ackerman patent was issued that they regarded it as an infringement.

On the Superior Drill—Patric and Packham patent No. 404108, Packham patent No. 429320.

The Tiger Drill, made by Rowell at Beaver Dam, Wis., was first made with a weight pressure, one form of which is shown in patent No. 410768 to J. S. Rowell, Sept. 10th, 1889, which structure resembled the weight drill built by the Dowagiac Company prior to 1890. The weight pressure was abandoned by them upon introduction of spring pressure drills. Their coil pressure was not successful enough to hold a large share of the trade in competition with such structures as shown in their later patents—one No. 669664 to T. B. Rowell, March 12th, 1901, and another No. 672916 to J. S. and S. W. Rowell, April 30th, 1901, which latter, the Dowagiac Company informed them was considered as an infringement of their pressure patent, and I believe that they have marketed few if any of them.

On the Van Brunt Drill—Van Brunt patent No. 461292, Van Brunt patent No. 490728, Van Brunt patent No. 676593.

The drills manufactured and sold by these different concerns are, so far as I am able to judge the matter from their appearance, embraced by the claims of the patent.

Complainant's counsel offers the patents identified by the witness, which are bound in a book, in evidence, with a classified index therein, with the request that they be marked: "Complainant's Exhibit, patents on competing drills." The said patents being as follows:—

Fountain City Drill Patents—Pages 1 to 3 inclusive.

Edwards	672,476	3
Fockler	386,394	1
Howard	488,072	2

Havana Press Drill Patent—Page 4.

Ashurst	297,961	4

Monitor Drill Patents—Pages 5 and 6 inclusive.

Ackerman	746,432	6
Van Brunt	412,808	5

Superior Drill Patents—Pages 7 and 8 inclusive.

Packham	429,320	8
Patric & Packham	404,108	7

Tiger Drill Patents—Pages 9 to 11 inclusive.

Rowell	410,768	9
Rowell	669,664	10
Rowell	672,916	11

Van Brunt Drill Patents—Pages 12 to 14 inclusive.

Van Brunt	461,292	12
Van Brunt	490,728	13
Van Brunt	676,593	14

Redirect examination closed.

RE-CROSS-EXAMINATION BY MR. BANNING.

RXQ. 30. Has not the Dowagiac Company from the time it began to make the Hoyt spring pressure device in controversy sold such spring device separate and apart from the drills themselves, as well as on the completed drills, so that they could be applied to drills as desired? If so what has been the price at which they were sold?

A. No. The Dowagiac Company did not, from the time it began making the Hoyt spring pressure device, or in fact at any time since, to my knowledge, sell the spring pressure device apart from the complete drills, either for our drills or for other makes of drills. The drill having the Hoyt device was of such different general construction in the means of applying the pressure, such as the rock shaft, lever, attachment of the draw bars to the frame, etc., that to have supplied it for attachments to Dowagiac drills of prior make or to drills of other makes, would require a partial re-building of the drill frame. Individual parts of the Hoyt device, such as the shoe plates, covering chains, springs and connecting yokes have been sold by the piece as repairs at the prices shown by the Dowagiac Company's printed price list, which prices have not changed during the use of the Hoyt structure.

Signature in the presence of counsel and the notary is waived.

CHARLES L. FOWLE.

STATE OF MICHIGAN, }
COUNTY OF CASS, } ss.

I, Abner M. Moon, a notary public in and for said county and State, do hereby certify that proceedings were had herein as stated in the caption hereto; that on July 24th, 1905, I was attended by Fred L. Chappell on behalf of complainant, and Thomas A. Banning on behalf of defendants; that Charles L. Fowle was produced before me as a witness on behalf of complainant and was by me duly sworn; that the said deposition was taken on a typewriting machine under my supervision and

direction, and that the same was completed on Aug. 9, 1905; and that the several exhibits offered have been by me duly certified and marked in evidence.

I further certify that I am not related by blood or marriage to any of the parties in controversy, nor interested directly or indirectly in the event of this suit.

In witness whereof, I have hereunto set my hand and seal this 9th day of August, 1905.

(Signed) ABNER M. MOON,
Notary Public.

My commission expires Jan. 20, 1909.

"By Mr. Banning: Now that complainant rests its *prima facie* evidence on the accounting, defendants' counsel moves that the Master report in favor of the complainant for nominal damages only, on the ground that the evidence fails to show that the complainant is entitled to either profits or damages.

Counsel states that inasmuch as the Master is not present in person, his ruling upon the above motion may be had at any convenient time hereafter when he is present."

(INTRODUCED BY STIPULATION.)

MR. WM. H. TAYLOR, called as a witness on behalf of complainant, being first duly sworn, deposed and testified as follows, in response to interrogatories by Mr. Chappell:—

Q. 1. State your name, age, residence and occupation.

A. 1. Name, Wm. H. Taylor; age, forty-three; residence, Moline; occupation, trade manager of Moline Plow Company.

Q. 2. Are you familiar with the transactions of the Moline Plow Company or the Minnesota Moline Plow Company with the McSherry Manufacturing Company of Middletown, Ohio, the above named defendant, relative to their shoe drills from the period of 1893 to June, 1900?

A. 2. In some respects I am.

Q. 3. What other shoe drills were handled by the Moline Plow Company, and if you know, by the Minnesota Moline Plow Company during the period I have indicated?

A. 3. We did not begin handling the McSherry until 1896. We handled no shoe drills for the Minnesota house after that period except the McSherry.

Q. 4. With whom else did you negotiate for the purchase of shoe drills at or about the time you made contracts with the McSherry Manufacturing Co., the above named defendant?

A. 4. I am not able to state whether we negotiated with others at that time or not.

Q. 5. Did you not at some time between the beginning of the year 1896 and June, 1900, negotiate with Selby, Starr & Company of Peoria for the purchase of shoe drills?

A. 5. I would be unable to state whether we negotiated in that period or not.

Q. 6. Who would be most likely to know of your company?

A. 6. The officers of the company.

Q. 7. Is there any record in the office of the company to which you could refer or any memoranda or correspondence to ascertain the facts relative to this matter?

A. 7. Yes, sir.

Q. 8. Will you kindly look the matter up and give such information as you can on the subject?

A. 8. I will.

Q. 9. Can you state what price was paid to the McSherry Manufacturing Co. for shoe drills by the Moline Plow Company or the Minnesota Moline Plow Company?

A. 10. I cannot.

Question is objected to by counsel for defendants as irrelevant and incompetent.

Q. 11. Who would be able to supply that information?

A. 11. The Minnesota Moline Plow Company's manager.

Q. 12. Are you able to state what price was received for McSherry shoe drills by the Minnesota Moline Plow Company or the Moline Plow Company?

A. 12. I am not. That information is in possession of the Minnesota Moline Plow Company.

Q. 13. Do you know the retail price of the drills?

Question is objected to by counsel for defendants as irrelevant and incompetent.

A. 13. I do not.

Q. 14. What make of shoe drill was your strongest competitor, laying aside the question of any cut in the price, the territory referred to being that in which the McSherry shoe drill is best adapted for use, that is, the territory in which the Minnesota Moline Plow Company marketed the drills?

A. 14. My judgment would be that the Dowagiac has the best sale.

Q. 15. Did you ever attempt any negotiations for the purchase of the Havana Press drills for sale in that territory?

A. 15. I would be unable to state.

Q. 16. What is your best judgment on that question.

A. 16. My best judgment is that we would have negotiated, for the reason that I know we handled the Havana drill in other territories, and appreciated its style of drill very much.

Q. 17. Do you know of any reason why you did not handle it in this territory?

A. 17. I do not.

Q. 18. You have handled it, however, since you began handling the McSherry drills?

A. 18. We have not.

Q. 19. Did you ever purchase and sell the drill known as the Monitor?

A. 19. No, sir; not to my knowledge.

Q. 20. Did you ever negotiate for the purchase of the same?

A. 20. Not to my knowledge.

Q. 21. Did you ever purchase and sell in this territory the shoe drill known as the Van Brunt shoe drill?

A. Not to my knowledge.

Q. 22. Did you make any negotiations for the purchase of the same?

A. 22. No, sir.

Q. 23. You said that the Dowagiac shoe drill had the largest sale of any of your competitors in the shoe drill line, in response to the inquiry as to what was the strongest competitor. Did you state that as evidence of its being the strongest com-

petitor, and do you consider that drill is the strongest competitor?

A. 23. In the high wheel shoe drills, I do, in that territory.

Q. 24. And by high wheel shoe drills you mean those drills having carrying wheels at the side of the machine?

A. 24. I do.

Q. 25. And you use the expression to distinguish from press drills which have no such carrying wheels, but are provided with wheels which follow the shoes and serve to cover the grain, as well as to carry a whole or part of the machine?

A. 25. Yes, sir.

Q. 26. State why your company adopted and dealt in the McSherry shoe drills in preference to any other shoe drills.

Objected to as irrelevant and incompetent.

A. 26. Well, we contracted for the McSherry, considering it a desirable shoe drill for sale in that territory, in fact, you might say the best obtainable competitive drill.

Q. 27. What particular feature of the machine led to its adoption, that is, if you are familiar with that part of the business?

A. 27. I would answer that there was no particular feature, but the general construction and general reputation of the line of McSherry drills.

Q. 28. Did the particular construction of spring pressure device for the shoe have anything to do with your adopting it?

A. 28. I would be unable to answer.

Q. 29. You do not know whether that was taken into consideration or not?

A. 29. No, sir; I could not answer.

Q. 30. Please state what advertising matter was furnished and paid for by the McSherry Mfg. Co. for use in the Northwest territory or the territory covered by the Moline Plow Company and the Minnesota Moline Plow Company in the sale of shoe drills.

A. 30. Well, our general line of circulars and catalogues.

Q. 31. Was the advertising in trade journals and locally in that section paid for by the Minnesota Moline Plow Company and the McSherry Mfg. Company?

A. 31. I would be unable to answer; the Minnesota house could give that information.

Q. 32. Did the McSherry Mfg. Co. furnish canvassers or other salesmen for working the territory covered by the Moline Plow Company or the Minnesota Moline Plow Company?

A. 32. I would say no, except in some special case in expert way, but the Minnesota Moline Plow Company records would best show that.

I have investigated the matter of the question of the nego-

tiations with Selby, Starr & Company, of Peoria, with the beginning of the year 1896 about to June, 1900, and have to say that we did negotiate with Selby, Starr & Company, of Peoria, Ill., but did not handle their line of goods.

Q. 33. Did you open negotiations with Selby, Starr & Co., or did they approach you?

A. 33. I would be unable to state; the negotiations were not carried on by me.

Q. 34. Did you negotiate with anybody else during this period regarding the purchase and sale of shoe drills for the territory covered by the Minnesota Moline Plow Company or the Moline Plow Co.?

A. 34. No, sir.

Q. 35. Did traveling men, other than Mr. Eichelberger, for the McSherry Manufacturing Company, ever call on you?

A. 35. Not to my knowledge — and I think I would know.

Q. 36. What style of shoe drill did you handle just prior to the McSherry?

A. 36. We had a contract with the National Drill Company, of Dublin, Indiana, whose drill, I understand, is not now on sale in this western country.

CROSS-EXAMINATION BY MR. PECK.

XQ. 1. In purchasing the McSherry shoe drills and other implements which you bought of them, you bought them outright, did you, and had no contract or agreement with them at what price you should sell them?

A. 1. We bought them outright, and had no agreement as to our selling price.

WM. H. TAYLOR.

Subscribed and sworn to before me this 18th day of November, A. D., 1901.

....., *Notary Public.*

Further formal notarial certificate is hereby waived by counsel for both parties.

Complainant's Exhibit "Shoe Drills Sold by Minnesota Moline Plow Co., 1895-1896"

SHOE DRILLS SOLD BY THE MINNESOTA MOLINE PLOW CO., 1895–1896.

		"Minneapolis" Shoe Drills.	15	17	22	Cost.	Sold.
1895							
18	March	Winrau Bros., Manitou, Man.	4	2		$ 310.00	$ 380.00
18	"	Geo. Ganes Co., Bathgate, N. D.		1	1	125.00	152.00
18	"	Jas. Thompson, Cavalier, N. D.			1	70.00	85.00
19	"	R. S. Thompson, Glenboro, Man.	4	2		310.00	384.00
20	"	Garnsdel & McIntosh, St. Thomas, N. D.			1	70.00	85.00
22	"	Wimbledon Machy. Co., Wimbledon, N. D.			1	70.00	87.00
22	"	McAdam & Strong, Neche, N. D.		1		55.00	67.00
25	"	(Not named) F. Mitzell, Great Bend, N. D.		1		55.25	69.00
30	"	W. Watkins, Holland, Man.	2			100.00	124.00
30	"	Wimbledon, Mach. Co., Wimbledon, N. D.		1		55.25	69.00
30	"	Markell & Whitworth, Marus, Man.	4	2		310.50	374.00
6	April	(Not named) Winian Bros.		2		110.50	132.00
6	"	Markell & Whitworth, Dominion City, Man.		2		110.50	130.00
15	"	Markell & Whitworth, Dominion City, Man.		2		110.50	130.00
15	"	Merry & Williams, Carman, Man.		2		110.50	136.00
18	"	Larson & Tucker, Courtenay, N. D.	1			50.00	58.00
3	May	O. Prefontaine, Joly, Man.		1		55.25	68.00
27	"	H. F. Anderson, Winnipeg, Man.		1		55.25	68.00
		Total, 1895	15	20	4	$2,133.50	$2,598.00
1896							
April	25	H. F. Anderson, Winnipeg, Man.	1	1		105.25	125.00
May	25	H. F. Anderson, Winnipeg, Man.	1			50.00	62.00
July	7	H. F. Anderson, Winnipeg, Man.		1		55.25	63.00
		Total, 1896	2	2		$210.50	$250.00

1896			Following are presumably McSherry Drills.	10	13	20	14	22	Cost.	Sold.
Jan.	30	(n n)	E. Winkler, Gretna, Man.....	1					$ 49.00	$ 56.00
Feb.	11	"	Markell & Whitworth, Morris, Man....	1					49.00	58.00
"	11	"	Goldsmith & Haig, Alexander, Man....	1					49.00	60.00
"	11	"	Carson Bros., Miami, Man.....	1					49.00	60.00
"	11	"	J. Eadie, Portage La Prairie, Man....		1				53.00	64.00
"	13	"	G. A. Dinwoody, Neepana, Man.....			1			57.00	73.00
"	13	"	Thos. Wilkinson, Birtle, Man.....				1		45.00	54.00
"	20	"	R. S. Thompson, Glenboro, Man.....	1					49.00	62.00
"	22	"	Wagner Bros., Plum Center, Man.....	1					49.00	62.00
"	22	"	Markill & Whitworth, Dominion City, Man.....		1				53.00	64.00
March	4	"	McAdam & Strong, Neche, N. D.....			1			57.00	70.00
"	4	"	A. K. Tweto, Abercrombie, N. D.....		1				53.00	65.00
"	5	"	Crawford & Co., Pipestone, Man.....				1		45.00	55.00
"	5	"	Goldsmith & Haig, Alexander, Man....	8	1		2		515.00	651.00
"	9	"	W. E. Cooke, Harvey, N. D.....	2	2	1			249.00	307.00
			Forward	16	6	3	4		$1,421.00	$1,761.00
"	12	"	A. Dinwoody, Neepana, Man.....	2					98.00	126.00
March	13	(n n)	Markill & Whitworth, Dominion City, Man.....	5	1	3			469.00	564.00
"	16	"	Jno. E. Menzies, Minnedosa, Man.....	2			2		188.00	232.00
"	16	"	Thos. Wilkinson, Birtle, Man.....	1			9		454.00	549.00
"	16	"	Cook & Fanning, Mewdale, Man.....		1				53.00	68.00
"	18	"	Jas. Winran, Pilot Mound, Man.....	4	4				408.00	500.00
"	19	"	Schuler Bros., Wahpeton, N. D.....					1	61.00	80.00
"	22	"	Jas. Eadie, Portage La Prairie, Man..	3	2	2		5	672.00	845.00
"	23	"	Jas. Eadie, Portage La Prairie, Man..		1				53.00	64.00
"	24	"	H. F. Anderson, Winnipeg.....		1		1		98.00	122.00
"	24	"	L. Dohereimer, Fulda, Minn.....	1					49.00	63.00
"	24	"	Presser & Scrumgard, Devil's Lake, N. D.					1	61.00	80.00
"	24	"	Jno. Munro, Cummings, N. D.....					1	61.00	83.00
"	25	"	Enoch Ulingler, Gretna, Man.....	15			5		960.00	1,090.00
"	28	(McS.)	Tiedt & Platt, Argyle, Minn.....			3		5	482.00	648.00
"	31	(n n)	Larsen & Tucker, Courtenay, N. D....		1				53.00	66.00
"	31	"	Ing Moen, Hunter, N. D.....		1	1		5	415.00	591.00
"	31	"	M. E. Hawk, Buffalo, N. D.....			3		2	293.00	393.00
"	31	"	Morgridge & Merrick, Grand Harbor, N. D.		2			5	411.00	574.00
April	1	"	Winran Bros., Manitou, Man.....	1					49.00	60.00
"	3	"	Markill & Whitworth, Dominion City, Man.					1	61.00	80.00
"	3	"	Goldsmith & Haig, Alexander, Man....	1		2			163.00	210.00
"	3	"	T. Wilkinson, Birtle, Man.....	1					49.00	63.00
"	3	"	Jas. Eadie, Portage La Prairie, Man...			1			57.00	70.00
"	3	"	Carson Bros., Miami, Man.....	1		1			106.00	135.00
"	3	"	Markill & Whitworth, Morris, Man....	1		2	2		253.00	304.00
"	4	(McS.)	R. S. Thompson, Glenboro, Man.....	1		1			106.00	138.00
"	6	(n n)	Qualey Bros. & Harrison, Kindred, N. D.		3			1	220.00	282.00
"	6	"	W. E. Cooke, Harvey, N. D.....		1	1			110.00	141.00
"	7	(McS.)	H. F. Anderson, Winnipeg, Man.....				1		45.00	54.00
"	16	(n n)	Jas. Eadie, Portage La Prairie, Man...			1			57.00	70.00
"	16	"	Goldsmith & Haig, Alexander, Man....				2		90.00	106.00
"	16	"	Jno. Munro, Cummings, N. D.....					1	61.00	83.00
"	18	(McS.)	L. Dohereimer, Fulda, Minn.....				1		45.00	54.00
May	11	(n n)	Thompson & McKinneth, Oak River, Man.				2		90.00	108.00
"	12	(McS.)	H. T. Anderson, Winnipeg, Man.....				1		45.00	54.00
"	19	"	H. T. Anderson, Winnipeg, Man.....	2		1	1		200.00	357.00
June	2	"	H. T. Anderson, Winnipeg, Man.....				2		90.00	108.00
July	7	"	H. T. Anderson, Winnipeg, Man.....	1					49.00	63.00

Complainant's Exhibit "Errors and Omissions in Lists of Sales of Infringing Shoe Drills as Rendered by the Minnesota Moline Plow Co., of Minneapolis, Minn."

Omissions on Lists of Sales of Infringing Shoe Drills, as rendered by the Minnesota Moline Plow Co., of Minneapolis, Minn.

Sheet No.	Date of Sale.	Particulars		Additions 14	16	18	20	22	Cost.	Sold.	Deductions 14	16	18	20	22	Cost.	Sold.
	1897																
2	Feb. 25	Markill & Whiteworth, Morris, Man.															
		6-16 shoe entered as sold for.....	356 00														
		Should be	336 00														
		Difference	20 00														20 00
2	March 3	Peerless Machine Co., Valley City, N. D.															
		Entered on list as 2-16 shoe.															
		Should be 2-18 shoe.....				2						2					
2	March 4	John A. Sanby, Elbow Lake, N. D.															
		Only 1 drill sold this date.										1				47 50	59 00
3	25	Jas. Winran, Pilot Mound, Man.															
		3-16 shoe entered as cost.....	145 00														
		Should be	145 50														
		Difference	50						50								
5	April 21	Oliver Bros., Hudson, Wis.															
		1-14 shoe entered as sold.....	54 50														
		Should be	51 50														
		Difference	3 00														3 00
	23	H. F. Anderson, Winnipeg, Man.															
		2-14 shoe, not entered on lists.		2					87 00	106 00							
		1-18 shoe, not entered on lists.....				1			51 50	63 00							
	May 5	C. E. Clure, New Rockford, N. D.															
		1-20 shoe, not entered on list.....					1		55 50	73 00							
	Sept. 14	H. F. Anderson, Winnipeg, Man.															
		1-18, not entered on list.....				1			51 50	63 00							
		Totals, year 1897.....		2		4	1		246 00	305 00		3				47 50	82 00
	1898																
5	Feb. 3	Markill & Whiteworth, Morris, Man.															
		10-16 shoe, entered as cost.....	465 00														
		Should be	475 00														
		Difference	10 00						10 00								
6	12	T. W. Child, Mellette, Man.															

Sheet No.	Date of Sale.	Particulars		Additions 12	16	18	14	22	Cost.	Sold.	Deductions 14	10	12	20	22	Cost.	Sold.
		10-16 shoe, entered as cost	465 00														
		Should be	475 00														
		Difference	10 00						10 00								
6	12	T. W. Child, Mellette, Man.												4		226 00	300 00
		4-20 disk, entered in error													5	302 50	400 00
		5-22 disk, entered in error															
	March 7	A. J. Brosneau, Cedar Rapids, Ia.															
		1-16 shoe, not entered on list			1				46 50	56 00							
	11	H. A. Hokanson, Herman, Minn.															
		1-22 shoe, not entered on list						1	58 50	71 00							
		1-16 shoe, not entered on list			1				47 50	56 00							
	11	Zimmerman Bros., Elisabeth, Minn.															
		1-14 shoe, not entered on list		1					42 50	54 00							
9	25	Johnson Leach, Havana, N. D.															
		1-22 shoe, entered as cost	13 50														
		Should be	58 50														
		Difference	45 00						45 00								
		Forward, year 1898		1	2			1	250 00	237 00				4	5	528 50	700 00
		Errors and Omissions (Continued)															
10	March 28	Morgudge & Merrick, Grand Harbor, N. D.										1				31 00	35 00
		1-16 hoe, entered in error															
	Dec. 14	H. F. Anderson, Winnipeg, Man.				1			54 50	66 00							
11	30	Ing Moen, Hunter, N. D.												1		56 50	72 00
		1-20 disk, entered in error															
	30	Geo. Campbell, Walhalla, N. D.															
		1-16 shoe, not entered on list			1				46 50	57 00							
		Total year, 1898		1	3		1	1	351 00	360 00		1		5	5	616 00	807 00
	1899																
12	Feb. 4	H. Lungren, Atwater, Minn.															
		1-16 shoe, entered as 1-20 shoe			1									1			
	20	Rose & Allen, Brandt, S. D.															
		4-16 shoe, cost	184 00														
		10-18 shoe, cost	500 00														
		6-20 shoe, cost	324 00														
		Total	1,008 00														
		Entered on list as	232 00														
		Difference	776 00						776 00								
	20	K. O. Lee, Aberdeen, S. D.															
		3-16 shoe, cost	138 00														
		3-18 shoe, cost	150 00														
		2-20 shoe, cost	108 00														
		12-22 shoe, cost	696 00														
		Total	1,092 00														
		Entered on list as	300 00														
		Difference	792 00						792 00								
13	March 3	W. J. Doig, Russell, Man.															
		1-18 shoe, sold	61 00														
		Entered on list as	16 00														
		Difference	45 00							45 00							
14	6	Frank Voyek, Lidgerwood, N. D.															
		1-16 shoe, cost	46 00														
		Entered on list as	44 00														
		Difference	2 00						2 00								
	11	Jno. Scott & Co., Fosston, Minn.															
		1-14 shoe, sold	52 00														
		Entered on list as	82 00														
		Difference	30 00														30 00
13	Feb. 23	W. Casement, Inkster, N. D.															
		1-22 shoe, sold	75 00														
		Entered on list as	95 00														
		Difference	20.00														20 00
14	March 16	J. P. Reiton, Gilby, N. D.															
		3-22 shoe, not entered on list						3	174 00	216 00							
		Total, year 1899			1			3	1744 00	261 00				1			50 00
		Errors and Omissions (Continued)															
	1900																
19	March 10	Larson & Pfeiffer, Evan, Minn.															
		Drills, cost	1,300 20														
		Entered as	1,320.00														
		Difference	20 00													20 00	
	Feb. 14	F. Lebel & Co., Pincher Creek, N. W. T.															

			Entered on list as	11 00																									
			Difference	2 00																									
		11	Jno. Scott & Co., Fosston, Minn.																										
			1-14 shoe, sold	52 00																									
			Entered on list as	82 00																									
			Difference	30 00																								30 00	
13	Feb.	23	W. Casement, Inkster, N. D.																										
			1-22 shoe, sold	75 00																									
			Entered on list as	95 00																									
			Difference	20.00																								20 00	
14	March	16	J. P. Reiton, Gilby, N. D.																										
			3-22 shoe, not entered on list																										
			Total, year 1899										1				3	1744 00	261 00									50 00	

Errors and Omissions (Continued)

Sheet No.	Date of Sale.	Particulars		Additions 12	16	18	14	22	Cost.	Sold.	Deductions 14	10	12	20	22	Cost.	Sold.
	1900																
19	March 10	Larson & Pfeiffer, Evan, Minn.															
		Drills, cost	1,300 20														
		Entered as	1,320.00														
		Difference	20 00													20 00	
	Feb. 14	F. Lebel & Co., Pincher Creek, N. W. T.															
		2-12 shoe, not entered on list		2					83 60	102 00							
		2-16 shoe, not entered on list			2				101 20	124 00							
	March 1	W. J. Doig, Russell, Man.															
		2-14 shoe, not entered on lists					2		92 40	110 00							
		2-16 shoe, not entered on lists			2				101 20	124 00							
		2-18 shoe, not entered on lists				2			110 00	136 00							
20	March 17	W. Henschel, Chaffee, N. D.															
		8-22 shoe, cost	507 60														
		Entered as	517 60														
		Difference	10 00													10 00	
20	March 21	Max Schultz, New Salem, N. D.												4		129 80	162 00
		4-20 hoe, entered on list in error											2			71 50	88 00
		2-12 hoe, entered on list in error															
	April 10	Madsen, Oxhohn & Pederson, Tyler, Minn.															
		1-14 shoe, not entered on list					1		46 00	56 00							
		Total year 1900		2	4	2	3		534 40	652 00			2	4		231 30	250 00

				14	16	18	20	22	Cost.	Sold.	14	16	18	20	22	Cost.	Sold.
	1901																
21	Jan. 5	Geo. Campbell & Son, Walhalla, N. D.															
		1-16 shoe, sold	60 00														
		Entered as	61 00														
		Difference	1 00														1 00
22	Feb. 15	Geo. Campbell & Son, Walhalla, N. D.			1				48 30	60 00							
	Feb. 23	Torguison & Louster, Hanaka, Minn.					1		56 70	72 00							
	March 7	De Pue Bros. & Co., Danvers, Minn.					1		56 70	70 00							
	March 9	R. A. Costello, Granville, Minn.						1	60 90	75 50							
	21	Langdon Impl. Co., Langdon, N. D.			6				289 80	360 00							
23	21	De Pue Bros., Danvers, Minn.						2						2			
24	15	W. W. Toner, Belview, Minn.			1								1				
24	18	Fritsche & Johnson, Albert Lea, Minn.			1							1					
		Total year 1901		1	8		2	3	512 40	637 50		1	1	2			1 00

Errors and Omissions (Continued)

Sheet No.	Date of Sale.	Particulars		Additions 14	16	18	20	22	Cost.	Sold.	Deductions 14	16	18	20	22	Cost.	Sold.
	1902																
	Feb. 6	Geo. Campbell & Son, Walhalla, N. D.			1				44 00	61 00							
25	24	Flan Bros., Boyd, Minn.															
		1-16 shoe, sold	61 50														
		Entered as	60 50														
		Difference	1 00														1 00
26	March 10	W. F. Stege, Courtland, Minn.															
		1-16 shoe, sold	61 00														
		Entered as	60 00														
		Difference	1 00														1 00
	17	Wimbleton Mach. Co., Wimbleton, N. D.					2		103 36	140 00							
26	22	Arnold & Fritsche, New Ulm, Minn.															
		1-20 shoe, sold	72 50														
		Entered on list as	62 50														

			1-20 shoe, sold								60 00												
			Entered as								61 00												
			Difference								1 00												1 00
22	Feb.	15	Geo. Campbell & Son, Walhalla, N. D.																				
			1-16 shoe, not entered on lists							1				48 30	60 00								
	Feb.	23	Torguison & Louster, Hanaka, Minn.																				
			1-20 shoe, not entered on lists								1			56 70	72 00								
	March	7	De Pue Bros. & Co., Danvers, Minn.																				
			1-20 shoe, not entered on lists								1			56 70	70 00								
	March	9	R. A. Costello, Granville, Minn.																				
			1-22 shoe, not entered on lists									1		60 90	75 50								
		21	Langdon Impl. Co., Langdon, N. D.																				
			6-16 shoe, not entered on lists							6				289 80	360 00								
23		21	De Pue Bros., Danvers, Minn.																				
			2-22 shoe, entered as 2-20 shoe									2							2				
24		15	W. W. Toner, Belview, Minn.																				
			1-16 shoe, entered as 1-18 shoe							1								1					
24		18	Fritsche & Johnson, Albert Lea, Minn.																				
			1-14 shoe, entered as 1-16 shoe							1							1						
			Total year 1901						1	8		2	3	512 40	637 50		1	1	2				1 00

Errors and Omissions (Continued)

Sheet No.	Date of Sale.		Particulars	Additions 14	16	18	20	22	Cost.	Sold.	Deductions 14	16	18	20	22	Cost.	Sold.
	1902																
	Feb.	6	Geo. Campbell & Son, Walhalla, N. D.														
			1-16 shoe, not entered on lists		1				44 00	61 00							
25		24	Flan Bros., Boyd, Minn.														
			1-16 shoe, sold														
			61 50														
			Entered as														
			60 50														
			Difference														
			1 00														1 00
26	March	10	W. F. Stege, Courtland, Minn.														
			1-16 shoe, sold														
			61 00														
			Entered as														
			60 00														
			Difference														
			1 00														1 00
		17	Wimbleton Mach. Co., Wimbleton, N. D.														
			2-20 shoe, not entered				2		103 36	140 00							
26		22	Arnold & Fritsche, New Ulm, Minn.														
			1-20 shoe, sold														
			72 50														
			Entered on list as														
			62 50														
			Difference														
			10 00							10 00							
	April	1	A. Henning & Co., Herman, Minn.														
			1-20 shoe, not entered on list				1		51 68	70 00							
		7	H. Carlson, Bethel, Minn.														
			1-16 Shoe, not entered on list		1				44 00	59 00							
27		8	P. G. Bush, Watertown, N. D. (McEwan, Doughterty & Dailey).														
			2-22 shoe, entered as 2-20 shoe					2									
		8	P. G. Bush, Watertown, N. D.														
			1-16 shoe, entered as 1-14 shoe		1						1						
			Total year 1902		3		3	2	243 04	340 00	1			2			2 00

Errors and Omissions on Lists of Returned Machines, as rendered by Minnesota Moline Plow Co. on Sheets 28 and 29 of List of Sales Rendered by them.

Sheet No.	Date of Sale.		Particulars	Additional Returns. 14	16	18	20	22	Cost.	Sold.	Returns to be Deducted. 14	16	18	20	22	Cost.	Sold.
	1899																
	Feb.	16	Princeton Hdw. Co., Princeton, Minn.														
			1 mach. retd	1					42 00	46 00							
	Dec.	26	Yock & Henning, Renville, Minn.														
			1-16 shoe retd., not entered on list		1				50 60	56 00							
			Total year 1899	1	1				92 60	102 00							
	1901																
	Feb.	11	L. E. Harton & Co., Wahpeton, N. D.														
			1-22 shoe retd					1	61 68	80 00							
	May	1	Watsche & Marhill, Morton, Minn.			1			52 50	64 50							
			1-18 and 1-20 shoe returned				1		60 90	70 00							
			Total year 1901			1	1	1	175 08	214 50							
	1902																
	May	5	Dilley & Norman, Montivideo, Minn.		1				44 08	60 00							
			1-16, 2-18, 5-22 shoe, returned			2			95 76	134 00							
								5	282 40	390 00							
		8	Farmer's Wholesale Assn., Sleepy Eye, Minn.														
			3-22 shoe, returned.					3	169 44	234 00							
	June	2	Arnold & Fritsche, New Ulm, Minn.														
			6-16, 1-18, 3-20, 5-22 shoe		6				264 48	369 00							
			Returned			1			47 88	67 00							
							3		155 04	217 50							
								5	282 40	390 00							
		22	H. Carlson, Bethel, Minn.														
			1-16, returned		1				44 08	59 00							
			Total year 1902		8	3	3	18	1185 56	1950 50							

		Total year 1901	1	8		2	3	512 40	637 50		1	1	2								

Errors and Omissions (Continued)

Sheet No.	Date of Sale.		Particulars	14	Additions 16	18	20	22	Cost.	Sold.	14	Deductions 16	18	20	22	Cost.	Sold.
	1902 Feb.	6	Geo. Campbell & Son, Walhalla, N. D. 1-16 shoe, not entered on lists		1				44 00	61 00							
25		24	Flan Bros., Boyd, Minn. 1-16 shoe, sold	61 50													
			Entered as	60 50													1 00
			Difference	1 00													
26	March	10	W. F. Stege, Courtland, Minn. 1-16 shoe, sold	61 00													
			Entered as	60 00													1 00
			Difference	1 00													
		17	Wimbleton Mach. Co., Wimbleton, N. D. 2-20 shoe, not entered				2		103 36	140 00							
26		22	Arnold & Fritsche, New Ulm, Minn. 1-20 shoe, sold	72 50													
			Entered on list as	62 50						10 00							
			Difference	10 00													
	April	1	A. Henning & Co., Herman, Minn. 1-20 shoe, not entered on list				1		51 68	70 00							
		7	H. Carlson, Bethel, Minn. 1-16 Shoe, not entered on list		1				44 00	59 00							
27		8	P. G. Bush, Watertown, N. D. (McEwan, Doughterty & Dailey). 2-22 shoe, entered as 2-20 shoe					2						2			
		8	P. G. Bush, Watertown, N. D. 1-16 shoe, entered as 1-14 shoe		1						1						
			Total year 1902		3		3	2	243 04	340 00	1			2			2 00

Errors and Omissions on Lists of Returned Machines, as rendered by Minnesota Moline Plow Co. on Sheets 28 and 29 of List of Sales Rendered by them.

Sheet No.	Date of Sale.		Particulars	14	Additional Returns. 16	18	20	22	Cost.	Sold.	14	Returns to be Deducted. 16	18	20	22	Cost.	Sold.
	1899 Feb.	16	Princeton Hdw. Co., Princeton, Minn. 1 mach. retd	1					42 00	46 00							
	Dec.	26	Yock & Henning, Renville, Minn. 1-16 shoe retd., not entered on list		1				50 60	56 00							
			Total year 1899	1	1				92 60	102 00							
	1901 Feb.	11	L. E. Harton & Co., Wahpeton, N. D. 1-22 shoe retd					1	61 68	80 00							
	May	1	Watsche & Marhill, Morton, Minn. 1-18 and 1-20 shoe returned			1	1		52 50 60 90	64 50 70 00							
			Total year 1901			1	1	1	175 08	214 50							
	1902 May	5	Dilley & Norman, Montivideo, Minn. 1-16, 2-18, 5-22 shoe, returned		1	2		5	44 08 95 76 282 40	60 00 134 00 390 00							
		8	Farmer's Wholesale Assn., Sleepy Eye, Minn. 3-22 shoe, returned					3	169 44	234 00							
	June	2	Arnold & Fritsche, New Ulm, Minn. 6-16, 1-18, 3-20, 5-22 shoe		6				264 48	369 00							
			Returned			1	3		47 88 155 04	67 00 217 50							
								5	282 40	390 00							
		22	H. Carlson, Bethel, Minn. 1-16, returned		1				44 08	59 00							
			Total year 1902		8	3	3	13	1185 56	1950 50							
29	1903 Jan.	19	Arnold & Fritsche, New Ulm, Minn. 1-16 shoe									1				44 08	60 00
			1-20 shoe, entrd. in error											1		51 68	70 00
	Dec.	21	R. A. Costello, Granville, Minn. 1-22 shoe, returned					1	59 50	71 50							
			Total year 1903					1	59 50	71 50		1		1		95 76	135 00

UNITED STATES OF AMERICA.

UNITED STATES CIRCUIT COURT.

DISTRICT OF MINNESOTA, FOURTH DIVISION.

IN EQUITY.

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY,

Defendant.

In the matter of accounting before Special Master, George F. Hitchcock, Jr.

STIPULATION.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the annexed statement may be added as a part of the statement of Sales and Expenses, indicating the proportions of Total Expenses to the Total Sales for the different years indicated.

It is further stipulated that there should be added to this list for the year 1895, a statement of 50 National Drills with Spring Pressure, comparable with those of the earlier McSherry structure, the same being of the average size of 17-shoe; and it is stipulated that the prices given for the year 1896 for such sizes, and that the purchase and selling prices for the year 1896 for such sizes may apply, and that the statement of percentage of expenses may be taken as that given for the year 1896, as appears from the statement.

FRED L. CHAPPELL,
Counsel for Complainant.
BANNING & BANNING,
Counsel for Defendant.

Signed, Aug. 11. 1905.

Statement

The total sales by the Minnesota Moline Plow Company of all kinds of implements and machinery, including shoe drills, as well as everything else, and the total expenses of making such sales, and the percentage of expenses to sale, as shown by the books of the Minnesota Moline Plow Company for the years ending June 30, 1896, 1897, 1898, 1899, 1900, and 1901, have been as follows: —

		Total Sales.	Total Expenses.	Per Ct.
Year ending	6-30-1896	$ 267,032.87	$ 38,150.27	14¼
Year ending	6-30-1897	282,611.02	41,089.78	14½
Year ending	6-30-1898	522,663.42	43,411.75	10 1/3
Year ending	6-30-1899	562,412.56	57,392.29	10 1/3
Year ending	6-30-1900	628,230.79	65,893.64	10½
Year ending	6-30-1901	300,973.75	51,058.59	17
		$2,563,924.41	$306,996.32	

No. 6820

In the Circuit Court of the United States

Western District of Kentucky

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,
Complainant,

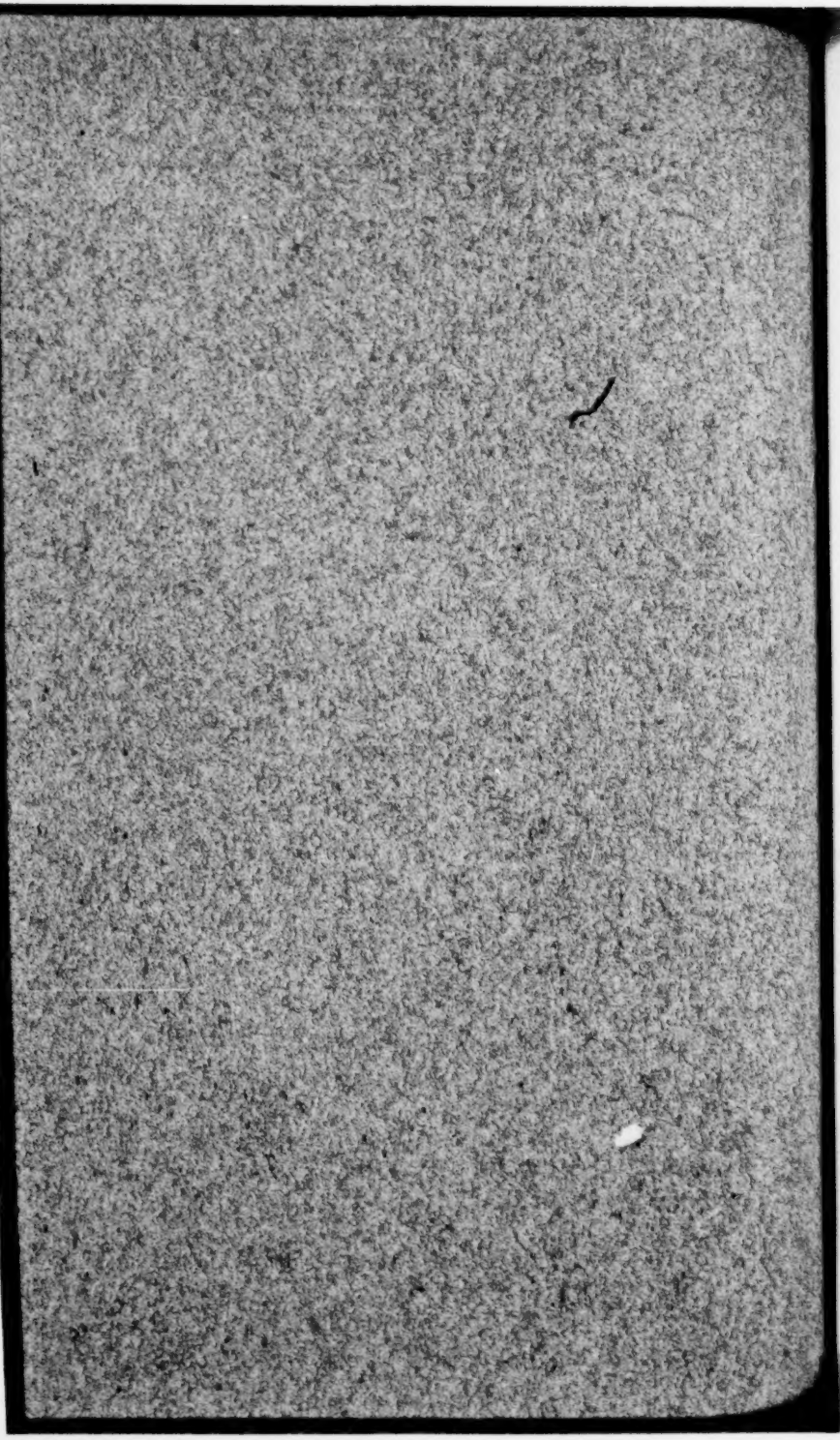
vs.

BRENNAN & CO., SOUTHWESTERN AGRICULTURAL WORKS, A. G. MUNN, HARRY M. BRENNAN, W. G. MUNN and MATTIE WELLER,
Defendants.

Complainant's Record on Accounting on Reference

to ALBERT G. RONALD, Esq., *Special Master*

FRED L. CHAPPELL,
Solicitor for Complainant.



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UNITED STATES OF AMERICA

WESTERN DISTRICT OF KENTUCKY

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,
Complainant,

vs.

BRENNAN & CO., SOUTHWESTERN AGRICULTURAL WORKS, A. G. MUNN, HARRY M. BRENNAN, W. G. MUNN AND MATTIE WELLER,
Defendants.

No. 6820.

To Brennan & Co., Southwestern Agricultural Works, A. G. Munn, Harry M. Brennan, W. G. Munn, and Mattie Weller,
Defendants.

In pursuance of the authority and direction contained in a decretal order made in this cause by the Honorable Walter Evans, United States District Judge, at a stated term of this court, held at the United States Court Room, in the City of Louisville, on the 13th day of June, 1904, I, Albert G. Ronald, do hereby summon you, Brennan & Co., Southwestern Agricultural Works, A. G. Munn, Harry M. Brennan, W. G. Munn, and Mattie Weller, defendants, to appear before me, the said Albert G. Ronald, at my office, Rooms 308-311, Columbia Building, Northwest corner Fourth and Main Sts., Louisville, Ky., on the 7th day of September, 1904, at 10 o'clock in the forenoon, to attend here before me, the said master of the matters in reference in the said cause, to be had by virtue of the decretal order aforesaid, a certified copy of which is hereto attached, and hereof fail not at your peril. That you then and there render a statement of account showing the following items:

First. The whole number of shoe grain drills that you have manufactured in infringement of the first three claims of the said Letters Patent referred to in the said decretal order, or any of them, indicating,

(a) The size of each grain drill by the number of shoes;

(b) The various attachments sold in connection with each drill, such as grass seeder attachments, fertilizer attachments, and press wheel attachments, or any other attachments.

Second. That you specify, giving the names and addresses of the parties purchasing said infringing grain drills, and the quantity of grain drills purchased by each, giving the sizes and the attachments of such grain drills, as stated in the first paragraph.

Third. That you indicate the selling price of each of said grain drills and also said attachments, and the discounts, freights and rebates of any description, and the net amount of money actually received by you therefor.

Fourth. That you indicate the manufacturers' cost of such grain drills for each year, itemizing the cost for material, and the cost for labor, and indicating likewise the cost of material and labor in the aforesaid attachments.

Fifth. That you indicate the cost and expense of selling such grain drills.

Sixth. That you indicate the entire profits derived from the sale of such grain drills.

Seventh. That you indicate the profits derived from any patented features embodied in the said infringing grain drills that are owned or controlled by you, the said defendants.

Eighth. That you indicate the entire profits derived from the sale of such grain drills on account of the utilization of the patented features contained in the Letters Patents referred to in the decree herein.

Dated the 20th day of August, 1904.

ALBERT G. RONALD,
Master.

UNITED STATES OF AMERICA,
WESTERN DISTRICT OF KENTUCKY, } In Equity.

DOWAGIAC MANUFACTURING COMPANY,
Complainant.

vs.

BRENNAN & CO., SOUTHWESTERN AGRICULTURAL WORKS, ETC.
Defendants.

No. 6820.

Statement of H. M. Brennan, in response to summons issued against him herein by Albert G. Ronald, Master in Chancery.

Comes H. M. Brennan, and for response to the summons issued against him herein by Albert G. Ronald, Master, states that prior to January 1st, 1901, he was and had been for some little time an officer of Brennan & Co., Southwestern Agricultural Works, a corporation; that he severed his connection with said Company in the month of January or February, 1901, and has had no connection with said Company since said time; that he does not now hold, and has not since said time held any interest in said firm or Company whatever. He says that during the time he was connected with said Brennan & Co., Southwestern Agricultural Works, his duties were such that he is unable to give any information whatever in answer to the questions and interrogatories mentioned in said summons; that he has no data, books or papers belonging to the said Company which would give such information; that said books, papers, etc., if any there are, showing such information, are not in his possession or under his control; that he is ready and willing at any time to give any information that he may have reference to such matters, but that he has no knowledge of said

matters and can not answer any of the questions or interrogatories contained in said summons.

Wherefore, he asks that this statement be taken as his response and answer to said summons.

H. M. BRENNAN.

H. M. Brennan says that the foregoing statements are true.

.....

Subscribed and sworn to before me this day of September, 1904.

My commission expires

.....

Notary Public, J. C. Ky.

Filed Sept. 30th, 1904.

A. G. RONALD,
Master.

LOUISVILLE, KY., SEPT. 30, 1904.

Albert G. Ronald, Esq., Master in Chancery, 308 Columbia Building, Louisville, Ky.

DEAR SIR:—

In Re Accounting between Dowagiac Mfg. Co. and Brennan & Co., Southwestern Agricultural Works.

We hand you herewith report of matters in reference in said cause heretofore ordered by you to be made on Sept. 7th, but later extended by consent of counsel to Sept. 30, 1904.

In this report we have stated the whole number of Shoe Grain Drills that have been manufactured in infringement of the first three claims of said letters patent in suit, for a period of six years prior to the filing of the bill of complaint, to-wit, six years prior to Aug. 1, 1900. We hereby reserve our exceptions to an accounting for Shoe Drills sold prior to the notice of infringement given us by the Dowagiac Mfg. Co., and we do not waive the question as to whether the decree shall be construed to include drills made and sold prior to said notice of infringement, which was May 25, 1900.

We have shown the size of each grain drill indicated by the number of shoes. Referring to the report: The first and second columns give dates of invoices, also names and addresses of the purchasers. The third column the number of grain

drills. The fourth column the size of each drill, the size being indicated by the number of shoe furrow openers. The fifth column the kind of shoe drills, it being understood that "Pl." refers to Plain, and "S" indicates Seeder Attachment. "Fert." indicates Fertilizer attachment, and "P. W." indicates Press Wheel Attachment. The sixth column shows number of shoe furrow openers. The seventh column shows the net invoice price of each drill, subject to varying discounts, allowances and rebates. The eighth column the net total amount on each invoice for each size drill.

It is understood that each drill is equipped with drag or covering chains unless Press Wheels are mentioned. Drills with Press Wheels do not have drag chains.

We reserve the right to correct such statements in event there be found any inaccuracies.

We are not able to indicate the manufacturer's cost of said grain drills nor the cost and expense of selling them and therefore are unable to indicate the profits derived from the sale of said grain drills.

Defendants have been during the period of infringement conducting a manufacturing business of various kinds of agricultural implements. This manufacturing business was established about the year 1855. Defendants have never kept any separate cost records indicating the manufacturer's cost of any of the different products of their factory, nor have they ever kept any records of the expense of selling any particular product.

Defendants have a large number of valuable patents which cover the Shoe Drill as manufactured by them during the period of infringement. To the patents controlled by defendants should be attributed a very large part of the profits derived from the sale of said Shoe Drills. These patents controlled by defendants are as follows:

No. 465220, Dec. 15, 1891, Steinke & Propst.
No. 473234, April 19, 1892, Munn & Christman.
No. 497864, May 23, 1893, Christman & Munn.
No. 543573, July 30, 1893, W. J. Dealtry.
No. 11720, Re-issued Feb. 28, 1899, Brennan & Christman.
(Original No. 613115, Oct. 25, 1898.)

The patent in suit relates to a very small part of a complete shoe drill and defendants believe that very little, if any, of the entire profit is due to the utilization of the patented feature contained in said patent in suit.

Respectfully submitted.

COPY

STATE OF KENTUCKY, }
COUNTY OF JEFFERSON, } ss.

I certify that the above is a true and correct statement of all shoe grain drills and sections of shoe grain drills manufactured or sold or used by Brennan & Co. Southwestern Agricultural Works during the period from Aug. 1, 1894 to ——. That the statement contains the exact number of machines so far as that can be determined at the present time, and also indicates the machines and sections returned, on hand and unsold, and the same was compiled from the original records at the office of Brennan & Co. Southwestern Agricultural Works at Louisville, Ky.

.....

Sworn to before me and subscribed in my presence this —— day of September, 1904.

.....

Notary Public, Jefferson County, Ky.

IN THE CIRCUIT COURT OF THE UNITED STATES,
FOR THE WESTERN DISTRICT OF KENTUCKY.

DOWAGIAC MANUFACTURING COMPANY,
Complainant.

vs.

BRENNAN, et al.,
Defendants.

Examination of W. G. Munn, called on behalf of the complainant, he being one of the defendants herein. Mr. Fred L. Chappell appeared on behalf of the complainant and Mr. Border Bowman for the defendant. Mr. W. G. Munn, being duly sworn by the Master, the direct examination by Mr. Fred L. Chappell proceeded as follows:

Q. 1. You are one of the defendants named herein?
A. Yes.
Q. 2. Your principal customer is the Deere & Webber Co., of Minneapolis, Minn., of shoe drills covering the period as to which you filed statement?
A. They are.

Q. 3. Is that firm still handling shoe drills of your manufacture?

A. Yes.

Q. 4. In this statement, in column 7, you quote a price, is that the price at which these grain drills are sold to the farmers?

A. No; that is the price taken from the copies of the original invoices to the parties named in the report and are supposed to be net prices before deducting cash discounts and allowances for rebates, returns, etc.

Q. 5. In those spaces left blank in this column, I presume it gives opposite the sales of single drills, and that the figure appearing in column 8 would be regarded as the price?

A. The seventh column refers to the price of single machines. Where there were more than one machine named in the invoice, the blank spaces of the seventh column indicate that there was only one machine invoiced, and the net price is caried over into the eighth column.

Q. 6. Then this price which you have here is not the price at which the machine was sold to the farmer?

A. It was not, unless the invoice was made to a farmer. In some instances we would sell a drill from our shop to a farmer in the country. In that case, of course, the report shows the price at which it was billed to the farmer.

Q. 7. Ordinarily, this is not the price made to the farmer?

A. It is not.

Q. 8. Can you state the prices at which these drills were sold to the farmer?

A. I can not, as we had very little trade with the farmers.

Q. 9. Did you in your contracts endeavor to establish a price to the farmers?

A. We did not.

Q. 10. You would have no means of knowing the price to the farmer then, except as you obtained the information from the dealers and jobbers to which your goods were sold?

A. That was the only way it could be gotten.

Q. 11. You endeavored then to establish no price to consumers in the manufacturing sale of these shoe drills?

A. We did not.

Q. 12. What in your judgment would be the best source to obtain that information — from Deere & Webber?

(Question objected to by attorney for defendants. Objection over-ruled. Exception for defendants).

A. I have no means of answering that.

Q. 13. Considering then that the items of rebate and discount are indicated in detail in the report which you filed this morning, there occurs thereon prices of plain drills and

prices of drills with grass seeders, prices of drills with fertilizer attachments and drill with press wheel attachments — now would not the difference between the prices of the plain drills, as appears on this list, and the prices of these drills with the various attachments, indicate the addition to the price of the plain drill on account of said attachments?

A. It would not because the drills are not itemized in the list referred to and there would be no way of answering the question from this list.

Q. 14. For instance, referring to the first sheet of your report of sales of shoe drills, etc., beginning August 1st, 1894, there is a sale indicated to Pemberton & Campbell of Shelbyville, Ky. There is "one 8 shoe 8 inch plain and seeder," with the total charge of $43.50. To the same party there is "One 8-8 plain" indicated at $41.00 — now does not the difference between the $41.00 and $43.50 show the addition there on account of the seeder attachment?

A. In that instance I would presume that it did.

Q. 15. And after the deduction, the difference between the net result after all deductions, as you have reported this morning, would still show a difference due to the presence of the seeder, would it not — that is, in this particular instance there is a deduction of 2% on the entire bill. It is assumed that 2% is deducted from $43.50 and 2% from $41.00 — the difference between these amounts would still be due to the presence of the grass seeder attachment, would it not?

A. Referring to the report of sales and the item embraced in the question above, the difference between the two amounts of $43.50 and $41.00 would indicate the price of the seeder attachment, which would be $2.50. In the list of rebates and discounts there is a cash discount on this sale of 2%, which applies to both items in the invoice; therefore, the 2% would come off of the price of the seeder as well as the price of the drills, so that there would be a slight difference in the price of the seeder from the original invoice, to the price of the machines after the discount was deducted, which can be accounted for by the cash discount on the price of the seeder.

Q. 16. On the same date there was sold a single 8-8 drill with the fertilizer attachment at $61 — is not the difference between that price and the price of a plain drill due to the presence of the fertilizer attachment?

A. It is when the two drills are sold at the same time to the same customer, but the prices of the drills vary with the different customers.

Q. 17. That is, you mean to say there was no uniformity in the price at which you sold these goods?

A. Generally speaking there was no regular uniform

price that was strictly adhered to. Different customers would get the same machines at different prices. For instance, in the date above referred to, Aug. 1st, 1894, "W. G. Payne, Covington, Tenn." got an 8-8 plain drill for $40.00, and "Young, Waller & Young of Morganfield, Ky." got the same drill at $41.00.

Q. 18. Was there any rule that was followed in the granting of these different prices?

A. There was not.

Q. 19. Did the charge vary in proportion on the different parts — that is to say, we will suppose that Young, Waller & Young had also purchased a drill with a seeder attachment, and that Mr. W. G. Payne had purchased a drill with a seeder attachment, would the increase of price be in the same proportion to each of these parties on account of the presence of the seeder attachment?

A. It would not. Sometimes parties were furnished seeder attachments without any charge; other times they were charged $2.00 for a seeder attachment on an 8-8 drill; in other cases they would be charged $2.50 for the seeder attachment. What I mean by the above is, that the price of the seeder would be included in the price of the machine at the above ratio.

Q. 20. There would be an increase in the price, however, if the seeder were present?

A. Sometimes there would and sometimes there would not. As I stated before, sometimes we furnished the grass seeder without charge.

Q. 21. Why would that be done?

A. Because some of our competitors made no charge for grass seeders and in order to meet this competition we occasionally had to furnish them that way.

Q. 22. What was the principal competition that you refer to in that connection — by what concerns?

A. My recollection is the Hoosier Drill Co. made no charge for their grass seeder attachments.

Q. 23. The same remarks do not apply to the fertilizer attachment or to the press wheel, do they?

A. No; they do not.

Q. 24. Was there any uniformity about the charge for fertilizer attachments?

A. There was not a regular uniform price for fertilizer attachments. The price would vary very much in the same way as outlined for the grass seeder attachments in the answer to the preceding question.

Q. 25. Were the press wheel attachments ever donated to the purchaser?

A. No; there was generally a charge made for the press wheel attachments, which would also vary.

Q. 26. There was a maximum price at which you sold these different attachments, was there not, that you ordinarily did not exceed — that is to say, you had a list for the ordinary run of the business and if you chose to make these prices below that list, including these extras, you did it in that way. Am I right about that?

A. My recollection is that during the time embraced in this report of sales there was no regular list for seeder, fertilizer or press wheel attachments. I have no recollection of seeing one. Drills ordered with these attachments were invoiced, of course, at a higher price than they would have been without the attachments; but this price would appear in different cases.

Q. 27. Did you not during this period print what manufacturers call a repair list, in which these different parts were included?

A. I have no recollection of our ever printing a repair list embracing the price of the seeder attachments, fertilizer attachments, or press wheel attachments.

Q. 28. And you had no list of these as extras, to be attached to drills already in the market?

A. We did not.

Q. 29. Was there any considerable number of them ordered as extras, that you remember?

A. There was not. This, however, can be determined by examining the books.

Q. 30. A higher price would be charged for them as extra than would have been charged for them in the first place when the machine was sold, would there not; or, what is the fact?

A. Generally speaking a customer who was in the habit of ordering a drill with a seeder would buy an extra seeder attachment at about the same price he would pay for it with the drill.

Adjourned until 1:30 P. M.

1:30 P. M. Met pursuant to adjournment.

Q. 31. Are the prices on your list f. o. b. Louisville, or is there a freight to be deducted?

A. In some cases freight was deducted, and the list filed this morning should show that.

Q. 32. I note in the Deere & Webber contract of 1900 that there is a reference to cheap shoe drills Dexter, which contract is marked No. 11 in red ink by the Master for identification, and in the Deere & Webber contracts for 1899, marked No. 15 in red ink by the Master for identification, I find in a letter of Sept. 14th, 36-16 shoe Dakota, 50-20 shoe Dakota, and will ask you what kind of drills these were; and if they are shoe

drills, if you will please produce an illustration of the same either in your catalogue, or otherwise?

A. I have no circular describing both or either of these drills with me and do not know that I can find one. I am willing to produce the circulars if I can get one.

Q. 33. Are these drills included in your report of sales?

A. They are not.

Q. 34. Are they the same in design as the Kentucky drills?

A. They are not.

Q. 35. Will you please state briefly how they differ?

A. They were a very cheaply constructed drill throughout and were made in every particular cheaper than the Kentucky drills.

Q. 36. What was the form and arrangement of the spring pressure device, if they had any?

A. On the Dexter and Dakota drills we used a coil spring pressure, and not a flat spring pressure, which was used on the Kentucky drills. They were also constructed differently in their working parts from the Kentucky drills.

Q. 37. How did their selling price to the consumer vary with the selling price of Kentucky drills?

A. I do not know.

Q. 38. Will you endeavor to produce illustrations of these drills at our adjourned session to-morrow morning?

A. I will if I can find them.

Q. 39. You speak of these drills, the Dexter and Dakota, as cheaply constructed in every way. Is that merely a matter of comparison with the Kentucky Drill, or comparison with the shoe grain drills in the market?

A. They were constructed in a cheaper manner than the Kentucky drills. I do not know how they compare in manufacture cost with other drills on the market.

Q. 40. Are there different grades of grain drills in the market — distinctly such from the manufacturer's standpoint?

A. I presume there are, but, of course, I do not know the manufacturing cost of drills other than our own.

Q. 41. What grade of drill would you regard the Kentucky?

A. I would regard the Kentucky as a good drill.

Q. 42. How does it compare in grade with the Dowagiac drill — one known distinctly as the "Dowagiac Shoe Drill"?

A. I should regard the Kentucky shoe drill as about of the same grade as the Dowagiac shoe drill.

Q. 43. Why did you find it necessary to put a cheaper grade of drill than the Kentucky in the market?

A. We had an order for that class of drills from our customers, Deere & Webber Co., of Minneapolis, Minn. I pre-

sume they wanted it to meet some cheap competition. I understand the Dowagiac Co. made a cheap drill, which they called the Michigan Drill, to meet similar competition.

So much of this answer as gives the reasons of the witness for putting the Michigan drill on the market is objected to as hearsay.

The objection is noted and the Master reserves his ruling.

Q. 44. I note on these contracts generally which you have filed, a reference to hoe drills. State briefly how these hoe drills differ from the shoe drills?

A. They differ in many respects, principally in the construction of their furrow openers.

Q. 45. The hoe drill, as I understand it, is the drill having a sharp point penetrating the ground something like a plow, as distinguished from the shoe drill, which has a knife shaped furrow opener running over the ground something like a sleigh runner?

A. That is my understanding with regard to the furrow openings.

Q. 46. Briefly state in what other particulars your hoe drills differ from the shoe drills?

A. The hoe drills are constructed with the front lift mechanism; or, in other words, the mechanism by which the furrow opener is elevated from the ground is in front of the seed box or hopper. I am speaking now in reference to our own make of drills. Our hoe drills had coil spring pressure to the furrow openers. They also had an adjustable zigzag arrangement by which the furrow openers could be set in straight rank or zigzag at the will of the operator. There may have been other differences in their construction which do not now occur to me.

Q. 47. In general, how did the price of these hoe drills compare with the price of the shoe drill — were the hoe drills higher or lower in price?

A. Our Company sold the hoe drills at a slighty reduced price from the price they asked for their shoe drills, although the cost of the hoe drill was about the same as the shoe drill.

Q. 48. Were hoe drills marketed to any considerable extent by you, or your company?

A. We did not sell as many of them as we did of the shoe drills.

Q. 49. What was the source of your information as to why the Dowagiac Manufacturing Company manufactured a cheaper shoe drill called the "Michigan"?

A. Principally from talks with our travelers.

Q. 50. What other lines of manufacture was the defendant company, Brennan & Co. engaged in during the period cov-

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ered by the report of sales besides the manufacture of shoe drills and hoe drills?

A. They were engaged in the manufacture of saw mills, cane mill machinery, corn tillers, straw cutters, cider mills, and general job work.

Q. 51. Will you kindly indicate substantially the extent of these other manufactures and the periods which they covered as best you can from recollection?

A. The books will answer that question best, and I would prefer not venturing an opinion on the subject.

Q. 52. But the amount — that is, a considerable amount should be taken into consideration in figuring these matters — matters of cost, etc.?

A. That also is a question that I would prefer the books to answer. They did a considerable business in the lines above mentioned.

Q. 53. Was there any considerable period embraced by the time covered by the report of sales, in which nothing but grain drills were manufactured?

A. There was not.

Q. 54. What is the capital stock of the defendant company?

A. $160,000.

Q. 55. That is fully paid?

A. Yes.

Q. 56. When was the defendant company incorporated?

A. They were incorporated in 1882 as Brennan & Co., Southwestern Agricultural Works. Prior to that they were known as Brennan & Co. as far back as 1865 or 1866. Prior to that the firm was known as Munn & Co.

Q. 57. Was the capital stock at $160,000 when incorporated or has it been increased to that since?

A. My recollection is that it was incorporated at $160,000. The books will show.

Q. 58. About how many men are employed by the defendant company?

A. What time?

Q. 59. During the period of this accounting?

A. This I can not answer. The books will give the information.

Q. 60. Can you not state it approximately?

(Question objected to by Mr. Bowman. Objection overruled. Exception for Defendant).

A. I would judge from a hundred to one hundred and fifty men. The number varied according to the business done.

Q. 61. In your supplementary statement which you filed to-day as to the first request you say, that the matter of arriv-

ing at the selling price attributable to attachments would be the work of an accountant. Is there data in your books that would enable an accountant to do that?

A. I would prefer having the accountant that examined the books answer that question.

Q. 62. You have charge of the books, have you not?

A. Not directly. The books are in the hands of a bookkeeper; I have not kept the books of the company for many years.

Q. 63. Who is the bookkeeper for the defendant company during the period covered by this report of sales?

A. They had several bookkeepers during that period, whose names appear on the books. I do not remember them now.

Q. 64. Can you give the name of any of them?

A. One was named Stark; one was named Marstrand. I do not remember the initials of either, but the books will show.

Q. 65. In response to the third request, which is the statement as to manufacturers' cost as I understand it, you say that the Company has never kept accurate cost records. Has the Company kept any cost records?

A. It was the custom of the Company to keep cost memorandums from time to time, but no particular care was taken of them. These cost records were not complete, nor were they reliable. There was no systematic arrangement for keeping cost.

Q. 66. The cost and expenses of selling the drills you say, is in the same condition?

A. The same condition.

Q. 67. Also, the matter of estimating the profits in the same condition?

A. The same condition.

Q. 68. Does the company keep a profit and loss account?

A. It did.

Q. 69. During the period covered by the accounting?

A. But that applied to the whole business.

Q. 70. Is there any account that would show what proportion of the whole business was due to shoe drills?

A. There is no account that would give this information.

Q. 71. Are the books preserved complete during the period covered by the report of sales of the defendant company?

A. They are.

Q. 72. Never been any lost, nor any of them destroyed; is that right?

A. With the exception of one petty cash book I think the books are complete.

Q. 73. In your report which you have filed bearing date Sept. 30th, you state that the defendants have a large number

of valuable patents and that to the patents controlled by defendants should be attributed a large part of the profits derived from the sale of said shoe drills. I call your attention to your statement, and also to a number of patents of which I show you the printed copies, and ask you if those are the printed copies of the patents to which you refer?

A. They are.

Q. 74. Are you able to state the time when the defendant company acquired title to these various patents and began using them?

A. The possession of those issued directly to the company were, of course, acquired at the time of issue. The devices were used prior to the date of issue. I can not state the time at which the other patents not issued directly to the Company were acquired, or the devices were used by the defendant.

Q. 75. Can you produce the orginal assignments of them?

A. I can not.

Q. 76. Why?

A. They were all turned over to the American Seeding Machine Co.?

Q. 77. Have you any record of the dates?

A. I have not.

Q. 78. Why can you not obtain them from the American Seeding Machine Co.?

A. I presume they can be obtained.

Q. 79. Can you not give substantially the date?

A. I notice all of these patents with one exception, were issued directly to the Company. The exception is the patent No. 465220, Dec. 15, 1891, to Steinki & Propst. My recollection is that this device, which was for a detachable heel shoe, was first used in 1895 or 1896.

Q. 80. The other devices you began to make use of at about the dates indicated for the filing of applications indicated on the patents?

A. No; I think they were used within two years of the filing of the application for patents.

Q. 81. Have you any way of determining these facts positively?

A. I can not answer that question without referring to the books.

Q. 82. Which of these patents do you think contributed most largely to your sales?

A. I can not answer that definitely. The company considered all of the patents very valuable and essential to the selling qualities of the drills.

Q. 83. What features of patent No. 473234 to Munn & Christman of April 19, 1892, was made use of during the period covered by the report of sales?

Question objected to by counsel for defendant, as asking for an opinion as though the witness were an expert patent witness or mechanic.

By Mr. Chappell: The witness has stated in his report that the defendants have a large number of valuable patents which cover the shoe drill, as manufactured by them during the period of infringement, and then states that these patents are of such a date and such a number, and the witness is now merely asked in extension of his report to point out the features which he thinks have been made use of in these drills which he has listed in this report of sales. It seems to be a very proper question, in view of the statements made by the witness. If he has no knowledge on the subject he should have supplied the information from some other source. He has made the statement in his report and it would seem incumbent upon him to point out the particular features; and he should not have made such a statement unless he should have informed himself as to what he intended to insist upon.

Defendants' counsel states that the witness and his company have had for some time both patent attorneys and experts employed, who have given opinions on these subjects, and the witness in his report has adopted their construction of the patents; but it is far fetched to maintain that witness is, therefore, qualified as a patent expert to give an opinion as to what features of the patents are contained in the drills.

By the Master: The objection is over-ruled, and the witness can answer the question, if he knows. Exception for defendant.

A. It is hard to define particularly the features used in the patent referred to. This device should be taken, however, in conjunction with the device covered by patent No. 497864, as the two devices are similar and were both used on defendant's drills.

Q. 84. The date of the patent No. 473234, that is, April 19, 1892, has been marked on your grain drills, has it?

Question objected to by counsel for defendant as immaterial.

By Mr. Chappell: This line of inquiry is insisted upon by complainants, in view of the substantially general custom of inventors and manufacturers marking their goods patented, with the date of the patent, under the Statute requiring them to do so under certain contingencies.

By the Master: Objection to the question over-ruled. Exception for the defendant.

A. I do not remember definitely about this. The drills themselves will show.

Q. 85. Is there a drill that can be inspected here in Louisville?

A. None in Louisville that I know of.

Q. 86. The patent, No. 497864, of May 23, 1893, shows a structure substantially identical with the one held to be infringed, does it not?

Question objected to by counsel for Defendants. Objection sustained. Exception for Complainant.

Q. 87. What year did you actually begin the manufacture of the structure that it held to trespass?

A. My recollection is in 1892.

Q. 88. Have you a catalogue for that year?

A. That I can not tell until I search the files in the office. I think a catalogue of that year was filed in the original proceedings.

Q. 89. The catalogue filed in the original proceedings was the earliest then, as you remember?

A. That question I can not answer until I see the catalogue and search the files in the office.

Q. 90. Will you kindly search your files and ascertain the earliest catalogue, so that we can know that fact at the adjourned session to-morrow?

A. Yes.

Q. 91. The first grain drills that you put out under this trespass, made according to the plan of the infringing grain drill, were made in accordance with these two earlier patents, were they not — that is, of April 19, 1892, and May 23, 1893?

Question objected to by counsel for defendants. Objection over-ruled. Exception for defendant.

A. In answering this question I will state that I am not a patent expert, nor am I a regular mechanic, and am, therefore, not competent to pass on the question from either of the standpoints. Generally speaking I should say that the devices embraced in the two patents in question were similar to those used on our shoe drills at that time.

Q. 92. Was there a material advance in the price of the shoe drills of your manufacture, over the price of shoe drills you had manufactured previous to the time of the adoption of the structure held to infringe?

A. My recollection is that there was no advance in price. The books, however, will answer this question.

Q. 93. That is to say, you mean that you produced a structure containing both of these patented features and sold it at the same price of shoe drills that you had formerly manufactured, as near as you recollect?

A. That is my recollection.

Q. 94. When did you cease manufacturing the old device?

A. That is hard to tell, as we manufactured the old device in 1890, 1891, and 1892, I think; and possibly some of them in 1893.

Q. 95. Has there ever been any material advance in the price of your shoe grain drills, embodying the features held to infringe, since you began manufacturing it?

A. The report of sales will answer this question, as the prices which we received for the drills are set forth therein.

Q. 96. I suppose the sales to Deere & Webber would be the best indicator, would they not?

A. It seems to me the report of sales should be taken as a whole, in order to get a fair answer to the above question.

Q. 97. Do you think it would be fair to average the price from year to year, take an average price for each year, in getting up the answer to this question?

A. That is quite a hard question to answer, as there would be liable to be a difference of opinion on the subject. I really would not know how to go about getting the average advance or decline in the price of the drills embraced in the report.

Q. 98. Was there any distinct increase in the selling price, due to the addition on the shoe drills of any of the subsequently patented features, after you began the manufacture of the infringing device?

A. What do you mean by the subsequently patented features?

Q. 99. I refer to the features that were added to your grain drills of earliest manufacture, that has been held to be an infringement in this case. You began some as early as 1893 (at least according to the proofs in the main case) and since that time there were patents issued in 1895 and 1898, and since that time you have acquired the patent, No. 465220 of Dec. 15, 1891, to Steinki & Propst. Has there been any addition to the selling price on account of any of these additions to the drill?

Question objected to by counsel for defendant on the grounds that the books themselves will show any advance in the price. Objection over-ruled. Exception for defendants.

A. I understand that you except from the above question the two patents No. 473234 and 497864, issued to Christman & Munn and refer to the other patents named in the report of sales, and in answer I will say, that I do not recall any established advance in price by reason of these patents, but I do believe that the salability of the drills and their attractiveness to the trade were largely enhanced by the devices embraced in these patents.

Q. 100. In your judgment did the addition of the features of these last patents enumerated, increase the cost of manufacture of the grain drills?

A. I do not believe they did; and as a further answer to the preceding question I will state that many of our competitors have adopted, or tried to adopt, some of the devices used in the patents above referred to in the preceding question.

The further examination of the witness was adjourned until Saturday morning, Oct. 22, 1904, at 10 A. M.

October 22, 1904.

10 o'clock A. M. Met pursuant to adjournment.

Q. 101. What benefit then did the defendants derive from the use of these patented features, if they did not lessen the cost of manufacture or enable them to obtain a higher price for their goods?

A. Very often the devices are used on drills or agricultural implements that do not decrease the cost or obtain an advance in price, but they do increase the salability of the machines by making them more attractive to the customers.

Q. 102. Then the application of those devices amount substantially to a donation of the same to the customer, does it not, in order to induce them to buy more goods and as an inducement to increase sales, rather than increase profits — is that right?

A. The application of the devices, as I have said before, we believed increased the salability of the drills; but, of course, the more drills we sold the more profits we made.

Q. 103. About how many drills per annum is it necessary to turn out to produce profits at the present rate of cost of manufacture and present selling price, or, I should rather say, the period covered by the report of sales?

A. That is an impossible question to answer, because in our business we made such a variety of machines other than drills that it can not be determined how many drills we would have had to make with the balance of the goods we manufactured, to give an intelligent answer to this question. And then again, the fixed or over-head charges in a manufacturing business govern the number of machines it is necessary to make before these charges are taken care of; and they have to be taken care of before any profit is made.

Q. 104. Your statement in closing your answer is substantially what I understand the fact to be, and my question was aimed to determine how many drills you would have to make before you would reach the point where profits begun to accrue?

A. I do not see how I can answer this question more completely than I have done in my answer to the preceding question, and I will have to refer you to the books of the company for any additional information concerning the same.

Q. 105. Please give as close an estimate as you can from your knowledge of the subject. I understand that you have been connected with this business for many years in the capacity of manager and other responsible positions. State what you know from your experience in the business disregarding the books?

Question objected to by counsel for defendant as calling for secondary evidence and as a mere guess on the part of the witness, and on the ground that the witness has already stated that it is impossible to answer such question.

Objection over-ruled. Exception for defendant.

A. As I have stated before, the defendants made a great number of machines other than grain drills, and the cost of manufacture and the profits on same, if any, were mixed and confused together, so that it would be impossible to answer this question with any degree of accuracy, and I would not venture to give an accurate answer even by consulting the books, for the reasons above given. Nor, would I feel like venturing an estimate of the number of drills it would require, as I do not know the profit that was derived from the manufacture of drills exclusive of the profit derived from the manufacture of the other goods that were made at the same time with the drills. It would be necessary in order to answer the question or to give an estimate to know something about the relative profits that were made on the drills and also on the other goods.

Q. 106. A considerable quantity of grain drills, however, would have to be manufactured before these overhead expenses to which you refer were taken care of, wouldn't they?

A. In all manufacturing business a considerable amount of business has to be done before the over-head or fixed charges are taken care of, and in a grain drill factory the number of machines that it would be necessary to make to take care of these charges would depend, of course, on the amount of the charges; and in our case that amount possibly may be determined from the books.

Q. 107. Briefly indicate for the benefit of the Court exactly what you mean by the expression "over-head charges"?

A. By over-head or fixed charges is generally meant the salaries of officers, superintendent, foreman, oil, waste, fuel, and any other items that are in the way of expenses incurred by the company, that do not enter into the constructive work; or, in other words, that would go on should the construction of the machine cease. That is my idea of it.

Q. 108. Up to the capacity of a given plant or institution the fixed charges then do not vary in proportion to the output, is that right?— fixed or over-head charges.

A. My belief is that they do vary greatly according to the nature of the business, or the way the business is conducted. In some plants the salaries may be much higher than others of the same capacity. This, of course, would increase the percentage of the over-head charges.

Q. 109. To make my question perfectly clear, we will suppose that the capacity of a given plant to produce grain drills is twenty thousand grain drills of a certain size per annum. Suppose that that plant in place of producing twenty thousand grain drills per annum produced only ten thousand, the fixed charges would not be reduced in proportion to that reduction, would they ordinarily?

A. That would depend on the way the plant was managed. If they cut the output down from twenty thousand to ten thousand, they might also reduce some of their fixed charges; and this is often done I understand. It is a question that I believe it is almost impossible to answer unless a given case is cited, showing the amount of the output and also the items of the fixed charges; then, of course, if the output is curtailed it would be possible to curtail the fixed charges, and the percentage of same would be reduced.

Q. 110. But if the plant did not take up some other line of manufacture, there would necessarily be idle capital there, would there not?

A. I should think that would depend upon how much money they borrowed at the time they produced the maximum output. There are a great many points involved in your question on this subject that it is almost impossible to answer on a hypothetical case. There is really no fixed rule in regard to matters of this kind.

Q. 111. But my question does not presuppose that this plant is being run with borrowed capital. Suppose you eliminate the question of borrowed capital and then answer my question?

A. If the Company had enough capital to manufacture twenty thousand drills and should cut the output down to ten thousand drills without reducing the items embraced under the head of fixed charges, they would undoubtedly have idle capital, provided their capital was not tied up in bad debts. Of course, the amount of the fixed charges would be the same in both cases.

Q. 112. In your books you keep a profit and loss account, do you?

A. We did.

Q. 113. Does that account show a profit or loss for the different years covered by the report of sales?

A. I must refer you to the books in answer to that question. They can speak more intelligently upon it than I can. My recollection is the account showed both profit and loss.

Q. 114. Some years profit and some years a loss, it that it?

A. That is it.

Q. 115. Have you been able to produce a catalogue of the "Dexter Shoe Drill" which you sold during the period covered by the report of sales?

A. I have.

Q. 116. What patented features, if any, were made use of on this drill?

A. None that I know of.

Q. 117. To what extent was this drill sold during the period covered by the report of sales?

A. I do not know exactly how many of those drills were sold, but not very many.

Q. 118. In what territory were they sold?

A. They were sold mostly to Deere & Webber Co. of Minneapolis, Minn., and on their special order for this kind of a drill. After they had bought as many as they desired they refused to take any more, saying the machine had answered their purpose.

Q. 119. Have you any correspondence from them on this subject?

A. Not that I am aware of.

Q. 120. How was the negotiation conducted, and by whom, if you know?

A. My recollection is that Mr. Webber was at our office in person and insisted on our making this drill.

Q. 121. Please give Mr. Webber's initials?

A. C. C. Webber, Minneapolis, Minn.

The catalogue produced by the witness is desired to be offered in evidence with the request that it be marked "Complainant's exhibit, Defendants' catalogue, New Dexter Shoe Drill," which is done.

Q. 122. How did the Dakota Shoe Drill differ from this New Dexter Shoe drill?

A. I do not recollect the difference between the two drills. They were both I believe coil spring pressure shoe drills.

Q. 123. You have been unable to discover a catalogue of the Dakota, have you?

A. I have not been able to obtain a catalogue of the Dakota drill.

Q. 124. Will you make further search, and if you find one

send it to the Master, marked "Defendants' catalogue Dakota Drill," so that it can be included with your testimony here.

A. I will.

Q. 125. Were there any patented features on the Dakota drill — that is, were any of the patented features which Brennan & Co. controlled put on the drill during the period covered by the report of sales?

A. I do not remember regarding this matter; in fact, I have forgotten the general features of the Dakota drills. I could answer the question, however, if I could get one of our old catalogues.

Q. 126. Well I suppose the prices you received for Dakota and Dexter drills appear frequently from the contract which you filed yesterday, do they not?

A. They do, so far as I know. I will state, however, in addition to the above, that there was little or no profit made on either the Dexter or the Dakota drill, and they were sold to Deere & Webber Co. at the reduced price under protest. We did not want to make this class of drills and would not have sold them to any one else at the same price we sold them to Deere & Webber Co.

Q. 127. You are manufacturing hoe drills — or were during the period covered by this report of sales — where were those sold principally?

A. They were sold all over the country, wherever we had a drill trade.

Q. 128. Did you sell them to Deere & Webber?

A. I think we sold a few of them. We did not manufacture many hoe drills and made no effort to push their sale.

Q. 129. Why?

A. Because we considered there was very little money to us in hoe drills.

Q. 130. Can you indicate the prices received for hoe drills by you during this period covered by the report of sales?

A. I can not.

Q. 131. Does that appear from your books?

A. It will.

Q. 132. What patented features did you control that were put into the hoe drills?

A. My recollection is that we had a patent on a horse shoe shape casting connected with the hoe lifting mechanism. We also used device under patent 543573 to W. J. Dealtry, July 30, 1895; and there may have been other and older patents that I do not now recollect.

Q. 133. Could you ascertain by these patents?

A. I do not know that I could. The only way I could get the information would be from one of the old drills. There was no record kept in our office of the patent marks or patented device used on the different machines.

Q. 134. Would not your patterns show?

A. It would be difficult to separate the patterns for the hoe drills for the different years embraced under the report of sales, as there were a good many changes made on the machines, and some of the patented devices used on other drills were also used on hoe drills.

Q. 135. Wouldn't your patterns show the dates of the patents of the shoe drills you manufactured during this period?

A. No; because, generally speaking, the patent marks were stenciled on the machine.

Q. 136. Well then, would not your stencils show?

A. They would, if they were kept. I doubt, however, if the stencils of the old machines are in existence. When we would change a machine that required a new stencil, the old ones were destroyed.

Q. 137. Will you try and ascertain whether these stencils show the dates and kindly report to the Master what the dates are, so that it can be included in your testimony?

A. I will.

Q. 138. In your catalogues I suppose you set forth the virtues of your products in order to effect sales, do you not?

Question objected to by counsel for defendants as immaterial. Objection over-ruled. Exception for defendant.

A. I presume our catalogues in this respect were the same as most trade catalogues.

Q. 139. Can you produce your catalogues pertaining to grain drills generally, covering the period of the report of sales?

A. Not all of them.

Q. 140. Will you please produce them so far as you are able and file them with the Master, to be marked "Defendants' Catalogues" covering grain drills during the period of report of sales?

A. I will.

Q. 141. Have you any separate account as to your selling department?

A. I think in the last two or three years we did have a selling expense; but the books will show.

Q. 142. Will you produce one of your catalogues of grain drills that you have sold since the decree in this case, and mark that catalogue for identification "Defendants' Catalogue of grain drills sold since the decree"?

A. I will.

Q. 143. Please state the extent of your sales of shoe drills as advertised by you since the decree, and whether, or not, they incorporated the features of the patents referred to in your report, excepting, of course, patent No. 497864 of May 23,

1893, to Christman & Munn, which exact structure has been enjoined according to the opinion in the case?

A. After the decree was entered against us we stopped making the device covered by the decree and continued to manufacture and put on our machines the other devices embraced in the patents named, as far as I am aware of.

Q. 144. You would not include in that statement the earlier patent of April 19, 1892, No. 473294 to Munn & Christman, would you?

A. I presume that patent was covered by the decree.

Q. 145. These other patented features you have continued to use them, as I understand you?

A. We have.

Q. 146. Have any other patented features been added since the decree?

A. By Brennan & Co.?

Q. 147. By Brennan & Co., yes?

A. I misunderstood the scope of your preceding question. In March, 1903, Brennan & Co. became known as the Kentucky Division of the American Seeding Machine Co., and since that time Brennan & Co. have manufactured no grain drills whatever. Since the American Seeding Machine Co. came into existence all patented matters were handled by the patent department at our general offices at Springfield, O.; and so far as I know no new patented features have been added to the shoe drills.

Q. 148. Have you now a cost system, so that the cost of manufacture, and the sale and the profits on the shoe drills would appear since the decree?

A. We have not.

Q. 149. Explain the relation of Brennan & Co. to the American Seeding Machine Co., so that may appear for the information of the Court?

Question objected to by counsel for defendants. Objection sustained. Exception for complainant.

Q. 150. Your company keeps a stock book I suppose, showing who are the stockholders?

A. Brennan & Co.— yes — they keep a stock book.

Q. 151. I will ask you to produce this stock book, so that it can be marked in evidence. It is agreeable to me that you retain possession, except that it be produced at proper times for examination and for hearing before the Court. I ask that this be marked "Complainant's exhibit, Stock Book of the Defendant Company."

A. I will.

Q. 152. To what extent are you marketing shoe grain drills

or is the Kentucky Division of the American Seeding Machine Co. marketing shoe grain drills at the present time?

A. They are marketing them in about the same proportion with relation to single Disk drills that they have in the last few years. We are still selling them.

Q. 153. Are you still making these sales of shoe drills through Deere & Webber Co. at Minneapolis, Minn.?

A. Yes; and we are also selling them to other parties.

Q. 154. Selling them to other parties in the Northwest?

A. No; other parties in other sections of the country.

Q. 155. Have any other patented features been added aside from those appearing in the patents which you have referred to in your report of sales, in relation to shoe drills?

A. I do not recollect any at this time.

Q. 156. Do you know Mr. Joseph Jennings of St. Paul?

A. I know a Mr. Jennings that formerly lived in St. Paul, but have forgotten his initials.

Q. 157. He is now of the Jennings Implement Co. 'up there?

A. I presume it is the same Mr. Jennings.

Q. 158. Did he ever come to Louisville in connection with this shoe grain drill business to your knowledge?

A. I think he did.

Q. 159. State your recollection of the circumstances?

A. My recollection is that Mr. Jennings came here to visit a relative, and also to make arrangements to sell our shoe drills.

Q. 160. During what period did he sell your shoe drills?

A. My recollection is that he sold them in 1891 and 1892.

Q. 161. Did he discuss with you the requirements for a shoe drill up in the Northwest?

Question objected to by counsel for defendants as immaterial. Objection over-ruled. Exception for Defendants.

A. I do not remember what Mr. Jennings talked about on that visit. He may have mentioned the requirements of shoe drills in that section.

Q. 162. Have you preserved copies of your advertisements covered by the period in the report of sales, in different journals, etc.?

A. Substantially, no. We have some copies of newspaper advertisements that are not dated and I could not state when they were inserted. I do not think any of them date back further than three or four years.

Q. 163. Will you kindly produce a schedule of weights of your shoe drills so far as you have it in your possession, and submit it to the Master marked "Defendants' schedule of weights of shoe drills produced by Munn"?

A. I can not produce this schedule other than was embraced in the catalogues. Some of the catalogues had weights in them and some of them did not, and catalogue weights are not accurate or reliable. Many of them were estimated. In filing with the Master all of our drill catalogues they will embrace the weights that we published at the time of issuing the catalogue.

Q. 164. Has it not been your custom to advertise your Kentucky Shoe drills, being considered here in the report of sales "for less money" than drills of other manufacture?

A. I have no recollection of any such advertisement.

The complainant moves the Master that he instruct the defendant to file a more complete statement in accordance with the order issued by him in this matter to the various defendants. It is understood that counsel for both sides will submit briefs as promptly as possible for the consideration of the Master.

Complainant's counsel gives notice that in the progress of this accounting reference will be made to the complete records in the case preceding the decree, as there is much matter there which will need attention from the Master.

Further examination in this case was adjourned to the office of the Dowagiac Manufacturing Co., Dowagiac, Mich., Oct. 31st, 1904, beginning at 9 o'clock A. M.

UNITED STATES OF AMERICA

DISTRICT OF KENTUCKY.

IN EQUITY.

DOWAGIAC MANUFACTURING COMPANY,
Complainant,
vs.
BRENNAN & COMPANY, SOUTHWESTERN AGRICULTURAL WORKS, A. G. MUNN, HARRY M. BRENNAN, W. G. MUNN, AND MATTIE WELLER,
Defendants.
No. 6820.

In the matter of accounting before A. G. Ronald, Special Master.

Testimony taken on behalf of Complainant pursuant to consent of counsel of both parties at the office of the Dowagiac Manufacturing Company, Dowagiac, Michigan, beginning at 10 o'clock in the forenoon, November 1st, 1904.

Present: Fred L. Chappell, Esquire, on behalf of Complainant; Paul A. Staley, Esquire, on behalf of Defendants.

This testimony is begun in the absence of the Master by consent of counsel, being agreed that the Master shall administer oath to the witness when he arrives.

George H. McVicker deposed and testified as follows in response to interrogatories by Mr. Chappell.

Q. 1. Please state your name, age, residence, and occupation.

A. Name, George H. McVicker, age 35, residence, Chicago, Ill., occupation, public accountant.

Q. 2. Please state your qualifications and experience that enable you to testify as an expert accountant.

A. I have been in the employ of the Safeguard Account Company, a firm of public accountants of Chicago for the past four years, performing for them all kinds of accounting work, auditing, systematization. Prior to my connection with that concern I have had an extensive and varied experience in the accounting department of a number of representative monster corporations of the country.

Q. 3. You have been requested to review the books of the Dowagiac Mfg. Co., the above-named Complainant and ascertain the cost of material, cost of productive labor, and other expenses entering into the manufacture of Dowagiac Shoe Grain Drills, and to ascertain the profits derived by the company from the sale of such Shoe Grain drills for the year or season of 1891 and 1892, I believe. This year, as I understand it, being the latest year that the Dowagiac Manufacturing Company manufactured such shoe grain drills without infringing competition.

The question is objected to as too general and is not related specifically to the profits derived from the patented improvements involved in the controversy. The witness may answer subject to the ruling of the Master hereafter.

A. I have been so employed, under the direction of the Safeguard Account Company.

Q. 4. Were there articles or things other than Shoe Grain Drills that the company was engaged in manufacturing and selling during this season or year?

A. There were.

Q. 5. What were they, and state their extent for the year 1891 and 1892.

A. Grass seeder attachments, press wheel attachments, miscellaneous repair parts, etc., to the extent, from calculations made of the tonnage shipped, a proportion of about 6½ per cent of the entire output was other than Shoe Grain Drills.

Q. 6. These attachments grass seeders which you refer to, pertain to the Shoe Grain Drill business or not.

A. They do.

Q. 7. You were also requested in this connection, taking the cost, etc. referred to for the year 1891 and 1892 as a basis to calculate the costs of labor and material entering into the production of Shoe Grain Drills for the season beginning with the years 1894 and 1895 to the seasons of 1903 and 1904 inclusive, showing cost of the different size of grain drills for each year, the cost of selling the same, other expenses that necessarily entered into the manufacture of said grain drills and the conduct of the business pertaining thereto, were you not?

The same objection as to Q. 3 and by consent this objection will apply to all testimony of this general nature without repetition and is agreed the witness may answer subject to the ruling of the Master hereafter.

A. I was so employed.

At this point the Master, A. G. Ronald, arrived and administered the oath to the witness, for such testimony as had already been given, and such testimony as will hereafter be given.

Complainant's counsel in response to the objection states that he believes the testimony to be proper or the testimony called for to be proper on whatever theory the case may proceed, and states that it is the purpose of Complainant to show that the entire sales of Shoe Grain Drills are due to the patented features in question in this account and that Counsel believes there is already testimony in the case in support of such position and that, further, the testimony would be pertinent in the event of the Master's feeling constrained to apportion the profits and damages because properly apportioned it would, in the first place, be necessary or desirable to show the entire amount.

By the Master: The objection is over-ruled and exception noted.

Q. 8. Considering the work that you have been requested to perform will you please state fully what you have done in that behalf; if you have prepared schedules showing the result kindly submit the same, explaining fully what the different schedules you may produce are intended to show and stating fully from what sources your information has been derived that enabled you to compile schedules.

A. In the first place I was supplied with information as to the quantities of material of various kinds going into the make-up of 11-6 wood frame shoe drill and a 12-6 steel frame shoe drill. I was also supplied with tabulated schedule of the prices prevailing in the various years under consideration,—for the principal materials entering into the calculations. There were some small articles that did not specifically affect the cost and the prices do not materially vary from year to year that were not included on that schedule. In the list of material above referred to that was furnished me also showed the value of the labor, expense and supplies appertaining to each section or part of the shoe grain drill. From the above mentioned schedules I made mathematical calculations and tabulated in form of schedules submitted herewith figures to show the cost of production on the basis set forth in the informa-

tion furnished me. Having accomplished this I then proceeded with an analysis of a merchandise account for the year 1891 and 1892 to determine the total material consumed, productive labor, manufacturing expenses and supplies, cash discounts, free repairs and such segregation of the account that was necessary to conform with the figured costs otherwise determined, as above explained. I was also supplied with schedules of the expenses of the business and a schedule exhibiting the proportions of the weights of various parts of shoe grain drills. This latter exhibit was the means I had of distributing or prorating the cost of material and labor to various sizes of machines. The analyses results determined from the merchandise account, together with the total of the expenses showed a certain figure as being the cost of labor, expenses and supplies and material used in the construction of shoe grain drills for the years 1891 and 1892 as per the books of account. Having previously ascertained the cost of production from an estimated basis the two were compared and a percentage added to the estimate to bring it to an agreement with the total costs as per the books of account. This first year, 1891 and 1892, was used as a basis and this same percentage was used to increase the figured cost of each year from 1894 and 1895 to 1903 and 1904. The schedule of expenses furnished me covered the entire period of investigation and I referred to the profits and loss accounts, expense accounts, etc. on the ledgers for the various years and saw that the aggregate thereof was in agreement with the total shown thereon. The totals of these expenses from year to year were divided by the total of implements sold to determine the average expense. This average expense was added to the adjusted prime or first cost determined as previously explained and the results were tabulated on a final summary under the caption, "Cost and Expenses." The schedule of prices that was furnished me was tested and, to my satisfaction, determined to be reasonably correct from purchase contracts, invoices, etc. for all the years under consideration. The Sales Contracts were also examined to determine the net sales price of the various sizes of machines for each year, making due calculation for freight, trade discounts, etc., it being considered advisable when the free on board delivery was destination to use the freight rate applying to Fargo, North Dakota, for all sizes of machines from a 15-5 to a 26-5 as those were the sizes principally sold in the Northwest territory; the smaller sizes of machines being sold in principally the "home" territory freight allowance was not considered. Where the free on board destination was Minneapolis instead of destination the freight rate used was accordingly adjusted. From the net sales prices thus confirmed was deducted the cost and expenses to ascertain the net profit for one only of each size of shoe grain drills

manufactured and sold during the period under investigation.

Q. 9. You have in your answer referred to a number of schedules, some of which were furnished to you, some of which you made up from your independent investigation, some of which you confirmed. I will now ask you to kindly consider your answer to the question made and put a definite marking in red ink on each of these schedules and explain definitely from what sources you derived the information contained in the schedules. If you derived it from the books so indicate, if the schedule was furnished you and verified it so indicate, and if the matter furnished you was something you were not able to verify from the books indicate the person who furnished the information so that the source of it can be fully understood for the purpose of submitting testimony other than your own as to the truth of such schedule, or such matter.

A. I think the answer will be more clear if I consider the schedules independently rather than following the answer to the previous question. Schedule of General and Selling Expenses, etc. "A," furnished me as source of information, same was used in part and copied on Exhibit No. 3. The work was prepared by Mr. Schmalzried and as previously stated in answer to question above referred to the aggregate for each year was compared with the totals shown in the ledger accounts.

Schedule of Prices of Material, 1892 and 1893, and 1894 to 1904, "B." This was furnished me and same is in the handwriting of Mr. Hoyt. Purchase Contracts, Invoices, etc. for the various years were referred to and a thorough test made to satisfy myself of the verity of these prices.

Schedule of Prices of Material, 1891 to 1893 and 1894 to 1904, "C." This is in the handwriting of Mr. Schmalzried, and schedule above referred to as "B" was evidently merely a copy re-arranged in a little better shape and omitting some items that were not essential but it was necessary to use this schedule "C" for prices for the year 1891 and 1892 as they were not copied onto schedule "B."

Schedule of Implements Sold, 1891 to 1903, "D." This is in the handwriting of Mr. Schmalzried and was prepared by him from the journals and sales books for the period onto tally sheets and from thence recapitulated onto schedule "D." I did not verify in any way the tally sheets, except to foot them for the years 1891 and 1892.

Schedule of Weights, "E." This is in the handwriting of Mr. Hoyt. I did not verify same in any way but made use of the figures shown hereon as explained in my previous testimony to determine the proportion of cost from the size of machine used as a base to the various sizes that were manufactured.

Exhibit 1, page 1, Tabulated Results of Calculations of the

costs of grain box, 11-6 wood frame shoe drill years 1894 to 1899 and 12-6 steel frame shoe drill years 1899 to 1904.

Exhibit 1, page 2, Tabulated Results of Calculations cost of frame, 11-6 wood frame shoe drill, 1894 to 1899 and 12-6 steel frame shoe drill 1899 to 1904.

Exhibit 1, page 3, Cost of Poles for 12-6 shoe drill, 1894 to 1904.

Exhibit 1, page 4, Cost of Wheels, 12-6 shoe drill 1894 to 1904.

Exhibit 1, page 5, Cost of Shoe and Feed, 12-6 shoe drill, 1894 to 1904.

Exhibit 1, page 6, Cost of Surveyor, 12-6 shoe drills 1894 to 1904.

Exhibit 1, page 7, Cost of Pressure Lever, 12-6 shoe drill, 1894 to 1904.

Exhibit 1, page 8, Cost of Double-trees, 12-6 shoe drill, 1894 to 1904.

Exhibit 1, page 9, Cost of Neck-yokes and fixture box, 12-6 shoe drill, 1894 to 1904.

Exhibit 1, page 10, Cost of 11-6 Shoe Grain Drill year 1891 and 1892.

Exhibit 2, page 1, proportionate cost of various sizes shoe drills manufactured 1891 to 1894 for labor, expense and supplies.

Exhibit 2, page 2, proportionate cost for various sizes of shoe drills for material for year 1891 and 1892.

Exhibit 2, page 3, proportionate cost of various sizes of shoe drills, 1894 to 1899 for labor, expenses and supplies.

Exhibit 2, page 4, proportionate cost of various sizes shoe drills, 1894 and 1895 for material.

Exhibit 2, page 5, proportionate cost of various sizes of shoe drills for material, 1895 and 1896.

Exhibit 2, page 6, proportionate cost of various sizes of shoe drills for 1896 and 1897 for material.

Exhibit 2, page 7, proportionate cost of various sizes shoe drills, manufactured for 1897 and 1898 for material.

Exhibit 2, page 8, proportionate cost of various sizes shoe drills, 1898 and 1899, for material.

Exhibit 2, page 9, proportionate cost of various sizes shoe drills for 1899 to 1904 for material.

Exhibit 2, page 10, proportionate cost of various sizes shoe drills, 1899, and 1900, for material.

Exhibit 2, page 11, proportionate cost of various sizes shoe drills for 1900 and 1901, for material.

Exhibit 2, page 12, proportionate cost of various sizes shoe drills for 1901 and 1902, for material.

Exhibit 2, page 13, proportionate cost of various sizes shoe drills for 1902 and 1903, for material.

Exhibit 2, page 14, proportionate cost of various sizes shoe drills for 1903 and 1904, for material.

Exhibit 3, schedule general and selling expenses, copied in part as previously stated from information furnished, which information was located or tested on the ledgers; other expenses were added thereto which were taken from the books of accounts by me.

Exhibit 4, page 1, Final Summary exhibiting the net sales price, cost and expenses and net profits on wood frame shoe drills of various sizes for the years 1891 to 1899.

Exhibit 4, page 2, Final Summary exhibiting the net sales price, cost and expenses and net profits on steel frame shoe drills of various sizes for the years 1899 to 1904,— 1904 being incomplete on account of the sales not having been determined thus far for that year by Mr. Schmalzried. The foregoing into Exhibits 1 to 4 inclusive were prepared by me as before stated.

Adjourned until 2 o'clock P. M.

2 o'clock P. M. Met pursuant to adjournment.

Complainant's counsel desires to offer in evidence the schedules which have been identified and marked by the witness and requests that they be marked "Complainant's Exhibits," with the red ink markings referred to by the witness, appearing thereon in each instance and Complainant's Counsel states that such of these schedules as have not been verified by the witness will be taken up for consideration and further proofs offered in regard thereto by other witnesses.

Defendants' Counsel objects to the Exhibits and their offering in evidence as incompetent for the reason that they seem to be based upon information furnished by others and not from original examination by the witness of the books of the company. Those Exhibits identified by letter are particularly objected to as being incompetent and secondary for the reason stated, and those identified by number for the reasons that they are largely, if not wholly, based upon the exhibits prepared by others than the witness, apparently being mere calculation from the data not within the witness's own knowledge. The exhibits are further objected to as being incompetent because of the periods of time covered; those relating to matters prior to the accounting being irrelevant for any purpose, or if relevant at all incomplete, and those relating to the infringement period being also incomplete.

By the Master: Counsel for the Complainant stating that the exhibits are pertinent and that he will introduce other

testimony to render them competent they will be admitted for the present, subject to being hereafer excluded if, at the conclusion of the testimony, the Master shall be of the opinion that they have not been rendered competent.

Q. 10. I call your attention to Complainant's exhibit "Schedule of General and Selling Expenses," Exhibit 3, and ask you to indicate the character of the different items there, which of them are fixed expenses, in your judgment, and which of them are such expenses as would vary with the volume of the business, basing your judgment on the condition of the accounts as you found them.

It is understood that all the testimony of the witness based upon the exhibits offered by him is objected to by the Defendants' counsel. This will be subject to the preceding ruling.

A. As to which of the expenses are fixed expenses and which vary with the volume of the business I might not be able to state positively only from a general way from the table of percentages appearing on the bottom of the exhibit, which indicates that the expenses as a whole do not vary in the same proportions as the increase or the decrease of sales. There are some expenses shown in the list, for instance, "cash discount allowed" which may not be dependent entirely upon the volume of the business for the reason that discounts are oftentimes taken advantage of when customers have the money to spare and not taken advantage of when they need the money for other purposes at the time.

Q. 11. What about the other items. You refer merely to the cash discount? I desire a specific reference to the various items.

A. Salary of officers and clerks, I do not think would proportionately increase or decrease with the volume of business, as also the general traveling expense, postage, printing and stationery, office expense, territorial salaries, territorial traveling expense, rents and advertising. Possibly the items of collection expense, bad debts and repairs free would fluctuate in proportion to the sales.

Q. 12. I note that the item of bad debts is distributed equally through the different years. Why was this item distributed in this way.— What was the reason?

A. Because in some years the amounts charged off for bad debts were all accounts that were past due at the end of the fiscal period, a large portion of which was afterwards recovered. In some other years no bad debts at all were charged off and in other years only those that were badly delinquent were charged off, so that it seemed advisable to ascertain the total bad debts

for the long period and strike an average per year as being an equitable figure to use.

Q. 13. I note that in the column 91 and 92 there are not so many items as in the columns for the later years. What is the reason for this?

A. In the later years they had more elaborate distribution or classification of accounts. In 1891 and 1892 a single expense account is used and Mr. Schmalzried, I understand, analyzed that account, picking out the principal items as per Schedule "A" referred to in a previous answer given.

Q. 14. Did you refer to the totals on these accounts, or refer to the accounts in any way in the preparation of this schedule?

A. I compared the totals of the accounts on the ledger with the aggregate per year of items shown on the schedule prepared by Mr. Schmalzried as previously stated.

Q. 15. From your investigation what is your judgment as to their accuracy? of these items in this schedule.

Further objected to by Defendant and objection is overruled.

A. As to the accuracy of the analysis made by Mr. Schmalzried I can not say whether one item should have been large and another one small through errors in distribution but the total of said distribution agreed with the figure that was quoted in profit and loss account each year. As to such accounts as were not analyzed and appeared on the face of the ledgers I have no reason to doubt their accuracy, although a verification audit was not made, but such tests as were made of postings, footings, etc., in the course of research made, no errors were noted.

Q. 16. Then the totals of these different accounts, are as they appear in the books of the account of the company are they not?

A. They are.

Q. 17. And you know that of your own knowledge?

A. I made it a point to ascertain that fact.

Q. 18. Will you kindly indicate any other expenses which you regard as fixed expenses in addition to those appearing in the exhibit No. 3, Schedule of General and Selling Expenses?

A. The fixed expenses other than those listed on exhibit referred to would be in the nature of operating expenses which entered into the cost of production; for instance, taxes and insurance on plant. In addition to expenses of that nature appearing in the books as per instructions in the accounting an allowance was made for interest on investments.

Q. 19. What were the amounts of these items, if you are able to state?

A. As the method of procedure in determining the cost of production was based on that of the years 1891 and 1892 I did not have occasion to take note of the amounts of those expenses for other years merely adjusting the estimated cost for each of the other years, in like proportion as it was found proper to do for the years 1891 and 1892, but for that year, 1891 and 1892, the figure for insurance as per the schedule "A" prepared by Mr. Schmalzried was $1304.70; for that particular year he did not show how much the taxes were separate from other operating expenses and for interest on investment the value of the real estate and the plant at that time was used as a basis, which figure was supplied me by Mr. Hoyt and six per cent taken thereof, which amounted to $2100.00.

Q. 20. Will you kindly explain the four items at the bottom of the column marked "Accounts" which occurred below footings on this schedule of General and Selling Expense, Exhibit 3?

A. The first item referred to "implements sold" are totals I obtained from sheet which is now entitled "Schedule D," they are the totals of all implements manufactured and sold by the Dowagiac Manufacturing Co. for the years 1891 and 1892 and years 1894 to 1903 inclusive. The next item "Average Expense," is the result of calculations made dividing the implements sold each year into the total general selling expenses, respectively, so as to arrive at a figure to use per machine in determining the cost and expenses of one only. The next item "Sales Increase and Decrease" denotes the increase or decrease in percentages from year to year the number of implements sold. The last items "Expenses Increase and Decrease" denotes the increase or decrease in percentages of general and selling expenses,— for comparison with the increase or decrease of the percentages of sales.

Q. 21. Are these the percentages to which you referred in a former answer?

A. They are.

Q. 22. What do they show relative to the volume of sales and the volume of expenses?

A. They show the increase or decrease from year to year.

Q. 23. Is the ratio the same for each?

A. They are not.

Q. 24. Referring to Exhibit 2, proportionate cost of various sizes of shoe drills, etc., consisting of some 14 pages or sheets, will you kindly indicate the method pursued to obtain these proportionate costs?

A. Up to the year 1898 and 1899 principally wood frame shoe drills were manufactured and sold and for a base size of a machine a 11-6 was used. For the years 1899 to 1904 a 12-6 steel frame shoe drill was considered as a base. After deter-

mining the cost of those two sizes for the respective periods all other sizes made in those years was determined by a method of proportion based on the weight of the respective parts as they were supposed to exist in the respective sizes of machines, per schedule "E," showing such weights, being information furnished me by Mr. Hoyt and which was not verified by me.

Q. 25. I notice that at the bottom of these schedules and below the footings an indication of certain percentages and while you may have explained what those percentages were in preceding answers kindly again indicate specifically what was your method of obtaining those percentages so that we may have them in connection with the particular schedules.

A. The method in brief of obtaining those percentages was to take the results of analyses of the merchandise account for the years 1891 and 1892, such items as pertained to the cost of production and add thereto the operating expenses that were in the expense account; also an allowance for interest on investment and determine the total as per the books of account for productive labor, manufacturing expenses and supplies, and material used; then a percentage of above 93½ per cent was taken of these figures as being the proportion entering into the construction of shoe drills after having determined that fact in an estimated way through ascertaining the tonnage of shoe drills shipped based on the schedule of weights marked "E" and tonnage of repair parts, attachments, etc. shipped for a year. The shoe drills produced and the material in process at ends of fiscal period was calculated at prices appearing on Exhibit 2, pages 1 and 2, being for the year 1891 and 1892 and it was found that the cost of production thus obtained was short of the figures determined by analyses of accounts for labor, expense and supplies there had to be added 93.381 per cent, and for material used 25.788 per cent. These percentages are what appear at the bottom of exhibit referred to.

Q. 26. In determing what percentage to add here what were the sources of your information?

A. The books of account, in analysing the merchandise accounts, and for shoe drills produced inventories and sales were considered; for goods in process and material, manufacturing expenses and supplies on hand at each end of the fiscal period, an inventory book was supplied me, all of which assisted in determining the percentage.

Q. 27. Then to determine these corrections the information was obtained from the entries of the books of the company were they not? If not indicate the exception?

A. From the entries of the books of the company with the exception of the number of shoe drills sold and on hand which were from the tally sheets, etc. pertaining to schedule "D" prepared by Mr. Schmalzried; these latter were considered by me

in determining the number of shoe drills produced, which was multiplied by the figured costs for purposes of comparison with the costs in total as per the books of account.

CROSS-EXAMINED BY MR. STALEY.

X. Q. 28. Will you please indicate any one or more of these exhibits which have been introduced which represents your own original investigation, without in any way involving the data furnished you by others?

Objected to by Complainant's Counsel as immaterial.

A. They are all involved, more or less, by data furnished by others.

X. Q. 29. As I understand it, your work has been more that of making calculations, based upon figures and amounts furnished you by others, rather than the examination of the company's books to ascertain the facts as to the number of machines sold, the amounts paid for material, and the amounts received for the machines. Is this right?

A. The work was largely from calculations, but for the year 1891 and 1892 an analysis was made of the merchandise account as far as determining costs of material, labor, expenses, were concerned, but the information as to sales, weights, and quantities entering into the respective shoe drills was furnished by others.

X. Q. 30. Then, as I understand it, you are not prepared to testify from your own examination of this company's books how many machines were made and sold during the period covered by the examination of the account?

A. I am not.

X. Q. 31. Nor are you prepared to testify on such examination as to the amounts received by the company for the sales?

A. I examined samples sales contracts in all of the years to determine the net price, but as to whether these contracts were always lived up to somebody besides me will have to testify.

X. Q. 32. But you are not prepared to state from your own examination how much money the company received for the sale of the machines alleged to enter into your computation during the periods covered by such computation, are you?

A. I do not know the total of sales in dollars and cents.

X. Q. 33. I notice in your testimony you refer constantly to calculations based on the year 1891 and 1892. Just what were those calculations, and how did they enter into the other year?

A. With the figured costs for all the other years besides the year 1891 and 1892 were proportionately different from

the books of accounts in total the same percentage would apply for the whole term of years, and tests were made that rendered it reasonable to suppose that that was the case.

X. Q. 34. I note in your summary, Exhibit 4, page 1, that you omit from your computation the years 1892 and 1893. Why was this?

A. I was not instructed to calculate the costs for those years.

X. Q. 35. Did you have data furnished you which would enable you to make such calculations?

A. Part of it.

X. Q. 36. In this final summary shown you seem to refer only to wood frame shoe drills, while from some of the other papers there seems to have been a variety of machines sold, such as hoe drills, single disc drills, double disc drills, broadcast seeders, attachments, etc. Did you make calculations for each of these, to find what proportion of the expense in the manufacturing and selling applied to those machines?

A. Those machines did not enter into the matter in the years 1891 and 1892, the years used as a base.

X. Q. 37. Well, how about the other years.

A. A test was made of other years in which those machines were used, and the profit remaining appeared sufficient or about proper, according to Mr. Hoyt's judgment, as applying to other implements than shoe drills used in that year.

X. Q. 38. Then, as I understand it, you did not make any calculations as to those machines, but relied on Mr. Hoyt's judgment in the matter. Is that right?

A. Yes, sir.

X. Q. 39. I understand this company has from time to time also engaged in selling buggies and bicycles. Did you discover anything of that kind on the books, or take it into consideration?

A. I discovered such on the books, but it was like other implements, not in the year that I was using as a base.

X. Q. 40. And so you disregarded it, did you?

A. I did.

X. Q. 41. On this schedule, marked "Exhibit 3, page 1," was it your idea to apportion the bad debts to each year alike during the period of this calculation?

A. I have so shown it on the exhibit. It was discussed with Mr. Hoyt, and then so proceeded with. I noticed that the bad debts in the profit and loss account for the base year 1891 and 1892 seemed out of proportion to other years, and I suggested to Mr. Hoyt and discussed with him the matter of proportioning rather than use the actual figures stricken off in any year.

X. Q. 42. But as I understand it, you did not proportion it, but made it uniform for each year, and my question was, was

this your idea to do this as a correct way of arriving at the conclusion which you reached, whatever that may be?

A. It seemed to me to be proper, and that was the way accordingly decided upon to do, although there might be a better way. I don't know.

X. Q. 43. Well, the question was, who really decided it? Did you do it on your own judgment, or others'?

A. I decided no points. I suggested it.

X. Q. 44. Then, as I understand it, this work has really been done under the direction of others with a view of obtaining some certain conclusions based upon data furnished you. Is that right?

A. Under the direction and instruction of others.

X. Q. 45. Now if this item of bad debts of the $3,000 and odd dollars represent the actual bad debt account for the year 1891 and 1892, how do you arrive at that?

A. The total bad debts charged off for a period of years less the amounts received in those years, divided by the number of years considered, was the method used in obtaining the figures shown on the exhibit.

X. Q. 46. What were the years you considered, and what was the amount?

A. From July 1, 1891, to July 1, 1904, there were $40,091.01 of bad debts, as per the working papers.

X. Q. 47. Taking the eleven years which you have shown on this schedule, Exhibit 3, page 1, in which you have made a uniform amount, do you not think that the bad debts would be more in proportion than the amount of business done, than at a uniform rate for that year?

A. I think I have so stated in a previous question that possibly these bad debts were dependent, more or less, on the volume of business done.

X. Q. 48. Could you ascertain readily about what this would amount to per machine during the time you have used?

A. I could ascertain.

X. Q. 49. It would amount to about 75 cents a machine, would it not?

A. I think it would.

X. Q. 50. I notice that in the same schedule, Exhibit 3, page 1, the number of implements sold, given under the column 94 and 95, is 1207, while the bad debts for that year, like other years, is given as $3,083.93. About how much would this be a machine?

A. It would be nearly $3.00 a machine.

X. Q. 51. Then assuming that the basis of 75 cents a machine for the entire period was the more equitable one, you have charged in that year in the neighborhood of $2.25 a machine too much for that one item alone, have you not?

A. Yes, and in other years a proportionate decrease.

X. Q. 52. In the final summary, Exhibit 4, page 1, your figures purport to show a loss, as I understand it, on that same year, on certain size drills where they are marked in red ink. Is this right?

A. It is so shown.

X. Q. 53. That is, the red ink figures indicate a loss, and the black figures, under the head of "Net Profits," indicate a gain. Is that right?

A. It is.

X. Q. 54. Assuming now that you had overcharged these particular items $2.25 for bad debts alone these items of net loss would be reduced that much, would they not?

A. Yes, sir.

X. Q. 55. Then that item opposite "25," which now shows a net loss of about 60 cents, would be changed into a profit of $1.65, would it not?

A. About.

X. Q. 56. You stated, I think, in one of your answers that you were instructed to allow interest on investments of $2,100. For what year was this?

A. The basic year of 1891 and 1892.

X. Q. 57. And this represents an amount of $35,000.00, on which you allowed 6 per cent?

A. It does.

X. Q. 58. Did you get this amount of $35,000.00 from the books of the company?

A. I did not get it from the books of the company.

X. Q. 59. Did you examine the books of the company to see what the books showed as to this amount?

A. Yes, sir.

X. Q. 60. And what did it show?

A. That they kept their real estate and plant and machinery accounts and tools included by depreciating them each year to a figure of $35,000.00 up to the present time.

X. Q. 61. This item then of interest is interest on the real estate and machinery at 6 per cent as carried on the books of the company. Is that right?

A. It was not on the books of the company at that figure at the time of the basic year, 1891 and 1892.

X. Q. 62. But my question awhile ago was intended to ask you when it was.

A. I may have unintentionally failed to state the answer to your other question, but will endeavor to give a better explanation now. July 1, 1892, according to Journal entry made, the depreciated real estate was made to include 50 per cent, and the figures written off were respectively, $7,434.79 for real estate, $5,844.45 for machinery and tools. July 1, 1893, noth-

ing was written off for either of these accounts. July 1, 1894, 10 per cent of the balance of the machinery and tools account was written off, and nothing for real estate. The next few years I do not remember whether this 10 per cent, or what, but small amounts were written off. From the year 1898 up to the present time I noticed that at the end of each fiscal period they would write off from real estate and machinery and tool account an amount sufficient to bring the account down to a balance of $35,000.00, and in doing so the year 1899, about $18,000.00 was written off, and the year 1900 nearly $12,000, but as a whole for the whole term of years, an average per year for real estate of $2,388.51 was written off, and machinery and tools, $5,206.32 was written off. The total amounts written off from 1891 to 1904 were $33,439.09 for real estate, and $72,888.44 for machinery and tools.

X. Q. 63. Did you take these figures into consideration in any way in making the calculations which are supposed to be illustrated in the various schedules which you have filed?

A. Only in so far as they were considered when determining the percentages to add to figured costs shown on the various pages of Exhibit 2, and then only indirectly.

X. Q. 64. Please explain in just what way they would enter into those percentages.

A. Repairs and maintenance or depreciation was considered an operative expense of the business.

X. Q. 65. And these figures were used by you to represent then a part of the operating expenses of the business.

A. They were given consideration in determining the operating expenses, but I can not say that they were directly included in those figures.

X. Q. 66. Well, if they were given consideration, what effect would that have on these percentages?

A. It was considered that a large amount of construction was charged to productive labor and material used that could not be determined.

The substitute had the effect on the percentages instead of the average amount for depreciation, and it is impossible to determine how large that substitution was.

X. Q. 67. Well, who made the substitution?

A. When they charged labor to merchandise account for building, bending machines, and erecting buildings, I doubt if I could determine how much that labor amounts to at this late date.

X. Q. 68. Then, as I understand it, the figures which were actually used, and which did or may effect the percentages, were estimated? Is that right?

A. Necessarily so in some respects.

X. Q. 69. Then you made no calculation of the actual

amounts as they appear on the books to see what your figures of percentages would have been and the actual amounts charged on the books instead of the estimated amounts?

A. No, for the reason the actual amounts or amounts shown on the books were improper to use in determining the cost of production.

Adjourned until 9 o'clock A. M., Nov. 2, 1904.

9 o'clock A. M., Nov. 2, 1904.
Met pursuant to adjournment.

X. Q. 70. On these schedules where the years are indicated by 1901-02, etc., what does that mean? Does it mean the fiscal year ending on the 30th of June, indicated by the last number, or what?

A. It means the fiscal year ending June 30, indicated by the last number.

X. Q. 71. So the schedules for 1900-01 means the year ending June 30, 1901?

A. It does.

X. Q. 72. And the same in all other cases?

A. It does.

X. Q. 73. In your final summaries, Exhibit 4, you purport to give the net profit made on each particular size of machine for the different years. Did you consult the profit and loss account of the company for these respective years, as shown by their books to see how, if at all, your computed profit compared with the actual profit, as shown by said profit and loss account?

A. For the basic year 1891 and 1892 I did, to be able to regulate, if necessary, the percentage required to adjust the material used and the labor, expense, and supplies.

X. Q. 74. But you did not do this for the other years' accounts?

A. It could not as readily be accomplished for the other years for various reasons, such as implements other than shoe drills that were manufactured and sold, changes in the method of keeping the books wherein trade discounts were handled differently in the accounts of some years than in others, etc.

X. Q. 75. You have not answered the question. What I want to know is the fact, without reference to your reasons.

Objected to as not competent and material, for the reason that it appears from the witness's testimony that the profit and loss account for other years does not show the profit or loss on account of the shoe grain drill business particularly.

Objection overruled. He can answer the question, and exception noted.

A. I did not make comparison for each of the years, with the exception of 1899 and 1900, in which an attempt was made and the difficulties described in my previous answer were encountered.

X. Q. 76. In the year 1900-01 you purport to show a net profit on shoe drills of $4.92 up to $26.61 each. Is that right?

A. It is so shown on the final summary of Exhibit 4.

X. Q. 77. And while as a matter of fact for that year the profit and loss account of this compainy shows a net loss of $93,095.64. Is that not true?

Objected to as not material or competent, and statement of fact by counsel is objected to as not competent to establish any facts in this connection.

By the Master: If the witness knows of his own knowledge what the profit and loss account for the year in question shows, I think he may answer the question. Objection overruled and excepted.

A. I do not recollect the profit and loss account for the year ending June 30, 1901.

Complainant's counsel suggests to the witness that if he can conveniently refer to that account and get the figure, it would be best to do so.

Witness investigates the account and makes the following statement: —

A. The difference between the credit balances of the profit and loss account at the beginning and the end of the year indicates a decrease in surplus of $121,662.91.

X. Q. 78. According to this profit and loss account, then this would indicate a loss of over $120,000.00 in that year, would it not?

A. According to the face of the profit and loss account.

X. Q. 79. According to the figures shown on Exhibit "D," "Schedule of Implements Sold," it appears that in the year in question 2812 shoe drills were sold of the different sizes from 8-8 up to 26-5. I mean the fiscal year ending 1901. Is this right?

A. It so appears on Exhibit "D."

X. Q. 80. And of this number 3 were of the "8" furrow openers, 26 of the "10," 36 of the "11," 95 of the "12," 153 of the 13-6, 77 of the 13-5, 94 of the 14-6, 156 of the 15-5, 61 of the 15-6, 300 of the 16-6, 201 of the 17, 229 of the 18, 44

of the 20-5, 599 of the 20-6, 720 of the 22, and 18 of the 26. Will you kindly consult the schedule and state if these figures are right?

A. I checked them on the schedule, and they are right.

X. Q. 81. In one of your answers you stated that you took the 11-6 of the wood and 12-6 of the steel for your base for making your proportionate calculations as to the cost of the other sizes. Why did you select these sizes?

A. I did not make the selection.

X. Q. 82. You did this under instructions from some of the Dowagiac Mfg. Co.?

A. The list of material and labor for information furnished me was for those sizes.

X. Q. 83. As I understand your schedules, you made no attempt to ascertain the actual selling expense of any one of these shoe drills. Is that right?

A. The general and selling expenses, as shown on Exhibit 3, an attempt is there shown to determine the average expense per implement sold.

The answer is objected to as not responsive by defendants' counsel.

X. Q. 84. But my question is, if you made any attempt to find the *actual* selling expense of any *one* of the shoe drills.

A. No, except as far as it was practical to do so.

X. Q. 85. I don't understand what you mean by the last part of your answer. Please explain it?

A. I knew of no way to ascertain it minutely or more equitably than the method used.

X. Q. 86. And the method that you really adopted was to take the total implements of all kinds sold and divide that into the total amount of the entire selling expense, and then assume that that expense applied to each implement alike. Is that right?

A. Yes, sir.

X. Q. 87. And on this basis you assumed that it cost just as much to sell a $50.00 machine as it does a $100.00, did you not?

A. Yes, sir.

X. Q. 88. During the period covered by this schedule, Exhibit 3, where you purport to show the average selling expense of each implement sold, this company sold drills at a price as low as $30.00, did they not?

A. I am not acquainted with the selling prices of other than shoe drills.

X. Q. 89. And yet you attempted to fix a selling expense for all drills of all kinds, whether shoe or not, did you not?

A. The selling expense is not shown separately from the general expenses, and I am not responsible for the method used, having made calculations under instructions.

By the Master: In obtaining the average selling price per drill for a given period, did you take the total selling expense and divide it by the number of drills sold within the period?

A. I did not separate selling expenses from general expenses and the method of determining the average expenses comprehended dividing the total general and selling expenses by the total number of implements sold which included all kinds of implements and not shoe drills only.

X. Q. 90. Do you think that it is an equitable method to charge to one machine, which we will say cost to build $20, as much in dollars and cents for general expense as you would charge to a machine which would cost to build say $100?

A. I don't think I am competent to answer that, not being in the shoe drill business.

X. Q. 91. Have you had no experience in determining these questions for manufacturers generally?

A. I have been in consultation with officers of manufacturing companies wherein a distribution of general and selling expenses were considered.

X. Q. 92. Well, from your knowledge of business methods thus obtained from manufacturers generally, would you say it was an equitable method to charge to one machine as much of the general expense of the company, when we will say that machine required one day's use of the capital and machinery of the company as you would to another machine which we will say might require ten days' use of the machinery and capital of the company?

Objected to as being entirely hypothetical, and not having any bearing on any possible contingencies of the facts and circumstances in this case.

By the Master: Objection over-ruled and exception noted.

A. If the hypothetical case applies to the selling it would not be equitable to charge the same.

X. Q. 93. My question applies to the general expense, just such as you have given for your computations on Exhibit 3, sheet 1.

A. The general expenses may be more selling than they are operating.

X. Q. 94. Now leave out the question of selling, and take only the general expense, which I understand does not include productive labor, and also all material. Is that your idea of

what is included in this schedule outside of the selling expense?

Complainant's Counsel: I wish my objection to stand to this entire line of cross-examination.

A. General expenses in that schedule does not include what I understand to be overhead expenses. The idea of the general expense, outside of the selling expenses, is entirely connected with the general office management, collection of accounts, etc., not including such non-productive labor as pertains solely to the operation of the plant, and it does not include taxes, insurance, interest on investment, and any expenses that can be allocative as pertaining to the operation of the plant.

X. Q. 95. Then as I understand it, this schedule D, aside from the salaries of the general officers and clerks, is substantially all selling expense. Is that right?

A. Collection of accounts, financing of the company, are not selling expenses, yet they are handled by the same office force and officers who are managing the sales department. The salaries of officers and clerks are the principal items; the others are small in comparison, which are not selling expenses.

X. Q. 96. And even a part of these salaries would be chargeable to the selling expense, would they not?

A. Generally expense could be divided, possibly on some pro-rata basis, into three sections, viz., operative, selling, financial.

X. Q. 97. Could you give us your idea of what percentages of the items shown on the schedule, Exhibit 3, page 1, are chargeable to selling expense?

A. I am not sufficiently familiar with this part of the business.

X. Q. 98. Now, so far as this schedule includes anything pertaining to what might be termed the overhead expenses, as apply in the operative department, do you think it an equitable method to apply a uniform amount in dollars and cents of this expense to each article made without regard to its cost as distinguished from a percentage based on the cost or on the labor employed?

A. If it were practical to determine the proportion of general expenses as pertained to operating expense, then I would believe another basis of distributing should be used than the basis of implements sold. It depends on the conditions involved; some general expenses, or rather operative expenses, would distribute on one basis more equitably than on another, but surely not on the basis of implements sold.

X. Q. 99. But the basis of implements sold is the one which you have adopted under instruction for these computations, is it not?

A. Yes, for such part of the general expenses as it was not practical to determine readily the proportion pertaining to operating.

X. Q. 100. From the schedule of implements sold, marked "D," I understand that up to the fiscal year ending June 30, 1894, this company sold only shoe drills. Is that right?

A. My understanding is that the list of shoe drills for the period mentioned there were attachments, repair parts, etc., not shown on this schedule.

X. Q. 101. What do you understand these attachments were?

A. Principally press wheels and grass seed attachments.

X. Q. 102. Any fertilizer attachments?

A. I presume so, although I do not recollect positively.

X. Q. 103. Were the number of these attachments of all kinds for the different years considered determined by you?

A. For the basic year, as I have previously explained, but not for all years, and the former was an estimate only.

X. Q. 104. Did you determine the number of attachments for any year, or did you attempt to determine?

A. For no year under consideration in the exhibit shown, except the basic year.

X. Q. 105. I understand from this Exhibit "D," the company in the fiscal year ending June 30, 1895, began to make and sell hoe drills and broadcast seeders and continued to make and sell these from that time on. Is that right?

A. It is so shown on schedule "D."

X. Q. 106. And beginning in the fiscal year ending June 30, 1898, this company began making and selling single disc drills, and a drill known as the "Michigan." Is that your understanding?

A. It is so shown on schedule "D."

X. Q. 107. What account, if any, did you take of this Michigan drill for the years following 1897, during which time this schedule shows it was made?

A. I did not determine the cost of the Michigan drill.

X. Q. 108. Did you take it into consideration at all?

A. The only place where it or any other was given consideration was on Exhibit 3, wherein I used the total of all implements sold to get an average expense to be used in connection with shoe drills.

X. Q. 109. Well, did you understand that this Michigan was not a shoe drill?

A. I was not informed. Schedule "D" had a caption shoe drills, and I paid no attention to other implements thereon.

X. Q. 110. You infer then that the Michigan drill is not a shoe drill. Is that right?

A. I do not know.

X. Q. 111. Well, I will ask you if it is not a fact, as shown by this schedule "D," that from the year ending June 30, 1894, down to the close of the period covered by the infringement, the percentage of shoe drills sold to the entire implements sold, decreased from 100 per cent in that year to less than 50 per cent in the last year?

A. It is not less than 50 per cent in the last year.

X. Q. 112. What is the percentage?

A. Of the entire number sold it is less than 50 per cent.

X. Q. 113. And it is also true, is it not, that from the year beginning June 30, 1898, up to that period, the percentage of disc drills to the entire number steadily increased?

A. It increased from year to year, and I therefore presume it did steadily.

X. Q. 114. And notwithstanding the fact that during the last year considered, less than half the output of the concern was in shoe drills, you made no attempt to establish the cost of the other implements or the profits thereon so as to obtain the total profits of all implements to compare with the profit and loss account of the company. Is that right?

A. That is right.

X. Q. 115. I understand that you do not claim to, and as a matter of fact have no certain knowledge of the grain drill business. Is that right?

A. That is right.

X. Q. 116. Do you know anything about the conditions of the trade, or the actual demand that existed in the years covered by these schedules for the different styles of machines included in these schedules, except as it appears from these schedules themselves?

A. My knowledge of the matter is based entirely from exhibits furnished me, which are in evidence here.

X. Q. 117. I notice in Exhibit 1, page 5, you purport to show the cost of the shoe and feed. Why did you combine these instead of showing the shoe alone?

A. The two were combined in the list of material used which was furnished me and which appears copied on the exhibit referred to.

X. Q. 118. So you were not furnished information that would enable you to determine the cost by your method employed of the shoe alone, or independent of the feed. Is that right?

A. I do not think I could have determined from the information furnished.

X. Q. 119. Were you given any instructions as to this, and if so, what were they?

A. The only instructions were to proceed with the information at hand, and I asked for no other.

X. Q. 120. And do what?

A. Make calculations of quantities and prices that were furnished me.

X. Q. 121. But what was the ultimate end of these calculations as you were requested to make. What was to be the ultimate end?

A. As shown on Exhibit 4, final summary, the net profit for each size and kind of shoe drill for each year under investigation.

X. Q. 122. Now taking into consideration the application of a constant amount each year for bad debts and a uniform amount applied to each machine for general and selling expense and the fact that the year 1901 by the profit and loss account shows a large loss in the general business of the company, do you think that your figures in this final summary for the year 1901 convey any intelligent idea of the actual profit or loss made on each of the machines therein scheduled?

A I think it does.

X. Q. 123. You think as a matter of fact then that this company made on the shoe drills they sold that year the profit therein shown, do you?

A. I have no reason to believe otherwise.

X. Q. 124. Notwithstanding the fact that during that year the profit and loss account showed a loss of over $100,000.00?

A. It is an easy matter to affect the figures of the profit and loss account independent of the cost of production and the amounts realized from the sale of the product.

X. Q. 125. And it is quite as easy to take each article of manufacture and show that it is made at a profit while as a fact the whole business will show a loss, is that right?

A. Possibly if a proper adjustment of the profit and loss account were made for that year it would show the proper profit.

X. Q. 126. But that does not answer the question. We are assuming that the books of the company are right and there was such a loss. My proposition is that after all you may adopt a method of figuring which will show a profit on the different articles manufactured while the total business would actually result in a loss. Is that true?

Objected to as purely hypothetical.

Objection over-ruled.

A. Figures may be juggled to show results which are not true by unscrupulous parties.

By the Master: Is there anything in these papers, filed as exhibits, showing the average cost of manufacture of the

various implements manufactured by the Complainant during the period covered by the exhibit?

A. There is not.

RE-DIRECT TESTIMONY.

Complainant's counsel offers in evidence the working papers for the year 1891 and 1892 referred to by the witness repeatedly in his cross-examination with the request that the same be marked "Complainant's Exhibit McVicker Working Papers, 1891-2."

Defendants' Counsel objects to the exhibit offered in evidence as irrelevant and incompetent as relating to a period prior to the alleged infringement and as not establishing a proper basis for any computations, and further as not being any way properly identified to the matter in issue herein.

By the Master: The papers will be admitted for the purpose of showing the method used in the witness's calculations by which he arrived at the results shown in the exhibits heretofore filed, subject, however, to the ruling made as to the original exhibit. The objection is over-ruled.

RDQ. 127. In the direct testimony, and on the cross-examination there has been much discussion as to the substance of these different exhibits and the sources from which you derived them and whether or not the different items have been verified by you and I will, therefore, ask you to take these different exhibits in the presence of the Counsel and the Master and prepare an explanatory statement of each one to be attached to these exhibits so that by referring to the exhibit and the attached sheet any one not entirely familiar with this litigation will readily understand what the exhibit shows. (The witness proceeds to mark the various exhibits as requested.)

Please indicate the markings you applied to these different exhibits.

It is understood that the objections theretofore made to these exhibits apply to all testimony relating to them and that Counsel can renew these objections to the said exhibits before the Master finally determines his ruling thereon which has been reserved.

Complainant's Counsel: That is my understanding.

A. I have marked the various exhibits as follows:—

Schedule "A." A schedule of general and selling expenses, etc., furnished me as a source of information. Same as used in part and copied on Exhibit 3. The work was pre-

pared by Mr. Schmalzried and the aggregate of each year was compared by me with totals shown in the ledger account. The attached card or slip shows the items for the year 1891-2 with the item of labor included.

Schedule "B." A schedule of prices of material 1892 and 1893, and 1894 to 1904. This was furnished me and same is in the handwriting of Mr. Hoyt. Purchase contracts, invoices, etc., for the various years were referred to and a thorough test made to satisfy myself of the verity of those prices. The prices shown in this schedule were evidently merely copied from those shown on Schedule "C," being rearranged in better shape and not including prices for the years 1891 and 1892.

Schedule "C." A schedule of prices of material, 1891 to 1893, and 1894 to 1904. This is in the handwriting of Mr. Schmalzried and Schedule "B" was evidently merely a copy of this one rearranged in better shape and omitting some items that were not essential. It was necessary to use this schedule "C" for prices for the years 1891 and 1892 as they were not copied on Schedule "B."

Schedule "D." A schedule of implements sold from 1891 to 1903. This is in the handwriting of Mr. Schmalzried from tally sheets. I did not in any way verify the tally sheets except to foot them for the year 1891 and 1892.

Schedule "E." A schedule of weights of the various parts of wood frame and steel frame shoe drills, and a 12-6 hoe drill tabulated and arranged to exhibit the proportions one to another of each part and the grand total thereof. This is in the handwriting of Mr. Hoyt. I did not verify same in any way but made use of the figures, as shown thereon to determine the proportion of costs from the size of machine used as a base to the various sizes that were manufactured.

Exhibit 1, pages 1 to 10. Tabulated results of calculations, cost of the various parts of a 11-6 wood frame and 12-6 steel frame shoe drill, 1894 to 1904, as follows:—

Page 1, cost of grain box 11-6 wood frame, years 1894 to 1899, and 12-6 steel frame shoe drill, years 1899 to 1904.

Page 2, cost of frame for sizes and periods described above for page 1.

Page 3, cost of long pole for 12-6 shoe drill, 1894 to 1904, and short pole for 12-6 shoe drill from 1899 to 1904.

Page 4, cost of wheels for 12-6 steel frame shoe drill, 1894 to 1904.

Page 5, cost of shoes and feed for 12-6 shoe drill, 1894 to 1904.

Page 6, cost of surveyor for 12-6 shoe drill from 1894 to 1904.

Page 7, cost of pressure lever for 12-6 shoe drill from 1894 to 1904.

Page 8, cost of double-trees for 12-6 shoe drill from 1894 to 1904.

Page 9, cost of neck-yokes and fixture box for 12-6 shoe drill from 1894 to 1904.

Page 10, cost of 11-6 shoe grain drill, years 1891 and 1892.

On pages 1 to 9 the names and quantity of material are shown in the first column on the left of the page and in each column with yearly headings are the prices predominating and the result of the calculation of said prices with aforesaid quantities. The total cost of material entering into the respective parts, as per each page, is shown under the heading for each year.

The total labor, expense and supplies being shown at the end of the first yearly column applies as well to each year thereafter.

On page 10 the first column shows names of material and the prices of same for the year 1891 and 1892; the headings across the top of the page indicate the different parts of 11-6 shoe grain drill and in columns under said heading appear the quantities and the result of the calculations of said quantities with aforesaid prices. The total cost of material entering into the respective parts are shown at the end of each column. The labor, expense and supplies for the different parts being the same as exhibited on the bottom of pages 1 to 9 with the exception of the surveyor part which did not occur in this year.

Exhibit 2, pages 1 to 14. Proportionate cost of various sizes of shoe drills, as follows:—

Page 1, labor, expense and supplies, 1891 to 1894.
Page 2, material, 1891-2.
Page 3, labor, expense and supplies, 1894 to 1899.
Page 4, material, 1894-5.
Page 5, material, 1895-6.
Page 6, material, 1896-7.
Page 7, material, 1897-8
Page 8, material, 1898-9.
Page 9, labor, expense, and supplies, 1899 to 1904.
Page 10, material, 1899-1900.
Page 11, material, 1900-01.
Page 12, material, 1901-02.
Page 13, material, 1902-03.
Page 14, material, 1903-04.

In the foregoing pages those for labor, expense, and supplies, the adjusted totals were transferred to the pages for material and added thereto as indicated. In the first column to the left on each page are shown the names of the different

parts and the price per pound or price each, as the case may be, same having been transferred from the sheets of Exhibit 1. The columns across the top of the page are headed with the various sizes of shoe drills manufactured in the different years, and under such headings are shown the weights and proportions obtained through use of Schedule "E"; also the results of calculations of said weights and proportions with aforesaid costs which were transferred from Exhibit 1. At the bottom of each page is shown an adjusted total; those for labor being 193.381 per cent, and material 125.788 per cent.

Exhibit 3, Schedule of General and Selling expenses, copied in part from information furnished, per schedule "A," which information was located or tested on the ledgers and other expenses were added thereto which were taken from the books of account by me.

The totals of the tabulated expenses for each year are shown respectively under their proper headings and the total of implements sold determined from Schedule "D" was transferred hereon, followed by the result of calculations showing the average expense per implement sold for each year. Next appears at the bottom of the page comparisons by percentage of the increase and decrease of sales and expenses for the several years.

Exhibit 4. Final Summary exhibiting net sales price, cost and expenses, and net profits as follows:—

Page 1, wood frame shoe drills of various sizes for the years 1891 to 1899.

Page 2, steel frame shoe drills of various sizes, the years 1899 to 1904,— 1904 being incomplete on account of the sales not having been determined thus far by Mr. Schmalzried.

The red figures shown under net profit in the second triple column on page 1 indicate net losses. The net sales price was determined for each year by me from sample sales contracts that were produced from the files; I made due calculation for trade discounts and freight allowances. In such years as the contracts called for delivery at point of destination the freight rate to Fargo, N. D., was used, and such years as point of delivery was Minneapolis the freight rate to Minneapolis was used. The larger size of machines, from 15-5 up, being considered as sold in the Northwest territory, and the smaller size, below 15-5, were considered at sold in home trade wherein freight allowance is not made. The amount shown for cost and expenses are the result of adding to the totals shown for cost on the various pages of Exhibit 2, the average expense as per Exhibit 3. The pages shown for net profit are the difference between net sales price and cost and expenses.

Complainant's Exhibit "McVicker Working Papers,

1891-2," pages 1 to 6, represent the tabulating necessary in analyzing merchandise account for that year, the totals of which were used partly on Exhibit 3 and partly on pages 7 and 8 of these " working papers."

On page 7, together with result of analysis of merchandise account, are grouped various costs and expenses to obtain their respective totals, and 93.594 per cent of same are shown as being the proportion belonging to grain drills for 1891-2.

At the bottom of page are calculations with the end of determining the proportion of expense and supplies to labor and material which was used in making further calculations in regard to material in process under inventory heading on page 8.

At the top of page 8 appears figures representing manufacturing expense and supplies, material and process in inventories of 1891 and 1892. Below same appears calculations made to determine the cost of material used, also labor, expense and supplies as results of calculations made from Exhibit 2 before same were adjusted. These are shown in comparison with the amounts derived from figures shown on page 7, together with the percentages that would be required to add to the figured costs as per Exhibit 2.

Defendants' Counsel objects to the above descriptions in-so-far as they purport to state the contents of documents, papers or book not produced, or the verification of any figures therein by books or papers not produced, and to any other matters of evidence.

RDQ. 128. I note that these explanations which you have attached to the schedules are more complete than your testimony in certain particulars and will ask you if you will swear that matters of fact therein stated of your own knowledge are true?

Objected to as wholly incompetent and for the reasons stated in the last objection.

By the Master: The witness may answer the question subject to the ruling heretofore made as to the admission of these exhibits. The whole question will be considered at the conclusion of the entire testimony offered by the Complainant as to these exhibits when Counsel for the Defendant may review the testimony.

A. I don't know as I stated any facts that were not couched or covered by explanations stating the source from whence they came. Whatever statements made are true to that extent.

RDQ. 129. About how much time have you consumed in the preparation of these various schedules here submitted?

A. Nearly six weeks.

RDQ. 130. How much time would you estimate would be consumed to audit each and every entry of the books for the period?

Objected to as immaterial because the witness has not shown himself qualified to answer.

Objections are noted.

A. I can not make an estimate of the time required without first making calculations of the volume of business and the number of entries, etc., etc., together with the extent of verification being comprehended in the audit; whether it is an examination or a general audit.

RDQ. 131. What I was getting at, how much time do you estimate it consumed to review the matter we have here, trace the various accounts back to the orginal entries so that you would know absolutely their correctness for the entire period covered by these schedules, and in that connection, as you have made an analysis of the merchandise account, for instance, for the years 1891-92, suggest that you answer the question on an assumption that the other years would show an equal amount of business and an equal amount of labor.

Same objection.

Same ruling as on the previous.

A. I should judge from a week to a week and a half per year. Of course this is a rough estimate and it might either exceed it or fall short.

RDQ. 132. If you audited each sales account in addition to this labor, if you have data, kindly indicate about how much time you think that would consume.

Same objection.

Same ruling will apply.

A. It would likely take three or four weeks per year to audit each sales ledger account or sales account, as I understand it.

RDQ. 133. You stated in answer to several questions on cross-examination that certain of your work is done according to instructions. State whether or not you carefully considered the plan you was instructed to pursue and whether or not at the present time you have in mind any errors in the plan that you pursued or anything better or more equitable to suggest.

A. I considered the plan of the instruction, in fact where the instructions were lacking and in the course of obtaining instructions therefor suggestions were made by me. Since the figures have been prepared and also since this examination has been begun the methods have been further considered by me and if certain parts of the work were to be done again, or if suggestions as to how it were to be done were to be made, the same would be prepared accordingly, such as bad debts and cash discounts allowed would be distributed on another basis. There may be some other points that I do not just now recall.

RDQ. 134. Would the selling expense probably be differently distributed?

Question withdrawn.

RDQ. 135. Kindly refer to schedules and indicate any other items you might vary your method with.

A. It might be well to distribute the selling expenses and possibly also the general expenses on a value of implements sold basis instead of on basis of numbers sold. This point was considered by me and by Mr. Hoyt at the time of preparing these figures, but it appealed to me as being very laborious to proceed in that manner and a question whether or no the difference in the final results per machine would be sufficiently affected to warrant the labor, but I would again consider the matter if I were to make these figures again, and it would likely be desirous also to make a separate schedule and distribution of selling expenses from those of the general nature.

RDQ. 136. In view of the cross-examination I shall desire you to prepare schedules for the year 1892-3 and 1893-4 for addition to the final summary, Exhibit 4, and as it will involve an adjourned session will also ask you to prepare schedules along the lines you have just indicated for the particular items for purposes of comparison with those already produced, without of course interfering with any of the exhibits which have been offered, so far as you are likely to show a different result from the exhibits and schedules submitted.

A. I will do so.

Re-direct examination suspended for witness to obtain the additional information.

Adjournment taken until to-morrow morning at 9:30 o'clock.

9:30 o'clock A. M., November 3rd, 1904.

Met pursuant to adjournment. Present, same as before.

By consent the deposition of Mr. Hoyt may be taken down stenographically and then transcribed on the typewriter.

Will F. Hoyt, witness called on behalf of Complainant deposed and testified in response to interrogatories by Mr. Chappell, as follows:—

Q. 1. You are the same person who has testified before in this case and are the inventor of the patent in suit?

A. I am.

Q. 2. I mean that you were examined in the main case in this accounting before?

A. That is correct.

Q. 3. I call your attention to the fact that Mr. McVicker has stated that certain data which he considered in his testimony and made use of in his testimony was furnished him by you, one of which is Schedule "B," which he states was apparently copied from Schedule "C." Kindly refer to the same and state whether or not that is the fact.

A. I have examined the schedule and will say that I furnished him with the data.

Q. 4. He also refers in a similar manner to Schedule "E" as being in your handwriting and furnished him by you, the same being a schedule of weights of various parts. Kindly refer to Schedule "E," state whether or not it is something which was furnished by you to Mr. McVicker and what you know about the information there contained.

A. This schedule was furnished by me as stated in the question and shows the weights of the different parts or pieces entering into the construction of the different sized drills as shown on the schedule.

The question and all testimony in this line is objected to by Defendants' Counsel on the ground and for reasons stated in the objection to the exhibits, in so far as it attempts to state the conditions, or is based upon books and papers not produced, as incompetent. The objection is made once for all.

By the Master: The objection is noted and subject to the ruling heretofore made in regard to these same exhibits.

Q. 5. What is your knowledge as to the correctness of this schedule. What are the sources of your information about it?

A. The actual weighing up of the different parts and proving of the totals by the shipping weights of the different constructions, which we use, from time to time as shipments go forward.

Q. 6. What is your relation to the Complainant company, the Dowagiac Manufacturing Company? What position do you hold and what are your duties?

A. I am a stockholder in this company and hold the position of secretary and general superintendent. As general superintendent I have charge of the manufacturing end of the proposition. I am also a Director in the company.

Q. 7. How long have you been general superintendent of the manufacturing of the Complainant company?

A. Since 1887 or 1888.

Q. 8. I call your attention to Exhibit 1, pages 1 to 10, which shows tabulated results of calculations and note in the left-hand column of each sheet certain prices as to parts of the machine and ask you to indicate whether any of those items were furnished by you as a basis for the calculation?

A. I have examined the items referred to and will say that this information was furnished by me to Mr. McVicker.

Q. 9. I also call your attention to Schedule 2, pages 1 to 14, which relates to labor, expenses and supplies, and to the items in the left-hand column thereof and ask you to consider the same and state whether or not you furnished any of those items to Mr. McVicker.

A. I have examined the Exhibits referred to and will answer that I did furnish this information to Mr. McVicker.

Q. 10. Please state how you were able to furnish this information to Mr. McVicker. What was the source of your information?

A. In my position as Superintendent of the company the matters pertaining to the construction of the machine come under my direct charge and from the experience I have had in the business in this capacity I have been enabled to arrive at the figures which I have presented.

Q. 11. State whether or not in obtaining these figures you have actually dissected and considered machines in determining the same?

A. I have done so.

Q. 12. State on what occasions you have done so in obtaining such figures or items?

A. It has been my custom from time to time as matters pertaining to the construction came up to figure over these different items and from such figures approximate the cost of the machine, and upon these costs base the price for the machine as it goes into the field.

Q. 13. Then from your answer I take it you did not attempt to review the books to obtain this information.

A. I did not.

Q. 14. State whether or not the wages paid to the productive labor by the Dowagiac Manufacturing Co. have varied during the period of this accounting,— say from 1891 to the present time, and also in that connection indicate your opportunities for information in that behalf.

The question is objected to by defendants' counsel in so far as it asks for the period of the accounting, and then gives the years prior to the accounting, or includes years prior to the account.

Mr. Chappell: Please disregard that portion of my question that states particularly the years of the accounting, and state from the year 1891 to the present time, or the beginning of the present year.

Mr. Staley: I repeat the objection as to that portion of the question prior to the accounting.

By the Master: Objection over-ruled and exception noted.

A. There has been no material change in the wage paid by our company during the period covered in the question. The matter of employing of laborers comes directly under my charge and I am fully aware of all matters pertaining to the same.

Q. 15. I will ask you if, in the shoe drills you have manufactured and sold, whether other patented features have been incorporated during the period of this accounting — I mean other than those appearing in the patent in suit?

A. Yes, there have been such features incorporated in the construction.

Q. 16. I hand you some patent copies and ask you if you recognize them as covering the features of your Dowagiac shoe grain drill and if, after doing the same, there are any other patents that you remember?

Defendants' Counsel: The question is objected to as leading. The witness ought to be allowed to state within his own knowledge what patents, if any, are embodied in the machine.

Complainant's Counsel remarks that he has the right to refreshen the memory of the witness.

Defendants' Counsel: It may be true if the witness has shown any hesitancy. He ought first to be given the opportunity to testify to his recollection.

Mr. Chappell: You may state then within your recollection without examining the patents.

A. We have in our construction a feature relating to a wedge in the shoe used, which is covered by letters patent.

We also use in our construction a feature relating to the cutting off of the lower rear corner of the shoe, which is covered by letters patent.

We also use a feature relating to the way for taking up the wear between the different parts in the feed as used in our construction, which is covered by letters patent.

There is also a patent relating to pressure wheel, and also

one relating to a concave feed ring on the feed as used which are covered by letters patent. This is all that occurs to my mind at the present time.

Q. 17. I refer you to a package of patents which I now hand you and ask you to examine the same and see if you would care to add any other features to those you have stated.

A. There is also one patent relating to the surveyor which appears in this package which I did not have in mind in my former answer.

Q. 18. I call your attention to the fact that there is also in this book of patents a patent to Brown. Was there any particular reason for excluding that from your remarks?

A. I did not observe this patent in my first examination. This is also a feature which is used in our construction.

Q. 19. There is also a patent on a Combination Grain and Grass Seeder which you did not mention in this book. That was also incorporated in your grain drills when the grass seeder attachment was present, was it not?

A. There is such a construction as described in this patent that is used in the manufacture of our grain drills.

Q. 20. I will ask you to review the entire book of patents which I submit to you, indicating them by date and number and state whether or not they are incorporated or have been incorporated in the past in the Dowagiac Shoe Grain Drills, along with the features of the patent here in suit?

A. I find that patent No. 411,141, dated September 17th, 1889 issued to Charles L. Fowle, covers a feature which has been used by our company in the manufacture of our grain drills and relates to a wedge feature:

Patent No. 442,118, dated December 9th, 1890, issued to Will F. Hoyt covering the pressure wheel bearing feature has been used in the manufacture of Complainant's drills.

Patent No. 448,861, dated March 24th, 1891, issued to W. F. Hoyt, on the rear end shoe construction, has been used by the company in its construction of grain drills.

Patent No. 492,802, dated March 7th, 1893, issued to W. F. Hoyt, pertaining to arrangement for taking up wear of parts in the feed device has been used by the company in its manufacture of grain drills.

Patent No. 627,381, dated June 20th, 1899, issued to Wilmont Bills, relating to land measure, has been used by the company in its manufacture of grain drills.

Patent No. 634,460, dated October 10th, 1899, issued to W. F. Hoyt, relating to grass seeder attachments, has been used by the company in its manufacture of grain drills.

Patent No. 654,057, dated July 17th, 1900, issued to C. L. Fowle, relating to feed ring construction on the feed device,

has been used by the company in its manufacture of grain drills.

Patent No. 705,030, dated July 22nd, 1902, issued to Wm. F. Brown, relating to detachable shoe, has been used by the company in its manufacture of grain drills.

The book of patents identified by the witness is offered in evidence with the request that it be marked "Complainant's Exhibit, Book of Patents showing features other than those of patent in suit" that have been made use of by Complainant in its grain drills.

Defendants' Counsel objects to the alleged copy of Patent No. 634,460 as being incomplete,— no drawings being attached.

Complainant's Counsel states he will furnish copy of the drawing if he is able to obtain it.

Q. 21. I call your attention to patent No. 411,141 of September 17th, 1889, to C. L. Fowle, and ask you to indicate whether or not the feature there appearing made the grain drill more salable and to indicate what, in your judgment, is the advantage of the patented feature, viz., in the language of the Claim: "A drill-shoe having side plates converging at the base, and a wedge-shaped bar attached between the plates at said base, substantially as set forth."

Objected to by Defendants' Counsel as incompetent and calling for opinions or conclusions without proper foundation.

By the Master: Objection over-ruled and exception noted.

A. I can see no material advantage to be gained by the use of this feature in the field, the principal advantage being in the shop practise in manufacturing the same. Our method of manufacturing this shoe before the patent was applied for was to use two plates of about 7-gauge material and drawing the lower edge of these two plates down to a necessary cutting edge to make the shoe effective. In substituting the third plate, or the wedge, between the two we were enabled to lessen the weight of the two plates formerly used, and so gain somewhat in the cost of the process of manufacture. As far as utility in the field is concerned I would consider one as valuable as the other.

Defendants' Counsel: Answer is objected to for same reason above stated.

By the Master: Objection over-ruled and exception noted.

Q. 23. Was the external appearance of the runner changed by this structure?

Defendants' Counsel: It is understood that above objection will apply to all this line of testimony relating to the opinions of the witness as to the selling qualities of the machine or advantages arising from certain constructions.

By the Master: Same ruling as to the above question and exception noted.

Q. 24. Will you state from your experience, about what the saving would be per shoe to manufacture according to this patent under consideration over the method you had previously in use?

A. I have made a brief calculation as to the difference in the expense of manufacturing these two constructions and find by weighing up the parts that two plates of 7-gauge material of the same shape as first used would weigh 4.87 pounds. The same shaped plates made of 11-gauge material weigh 3.31 pounds. The third plate, or wedge, placed between these two 11-gauge plates weigh .575 of a pound,—a total of 3.885 pounds, showing a saving in material of .995 of a pound or approximately one pound. Now I have used, say, what I consider an average price paid for this material, viz., two and one-half cents per pound, which would make a difference of $.0248 gained in the saving of material. The labor, however, in manufacturing this 11-gauge shoe is somewhat more than in the manufacture of the old style shoe, and I figure this at $.015, showing a total saving, approximately, of about nine-tenths of a cent between the two constructions.

Q. 25. What is your familiarity with the selling qualities of different grain drills? Is that taken into consideration in your end of the business?

A. The sales part of our company is handled wholly by Mr. Fowle and I pay little or no attention to the same, only knowing in a general way about how the prices on different machines run.

Q. 26. Calling your attention now to patent No. 442,118, issued December 9th, 1890, to Will F. Hoyt, for wheel bearing, please indicate to what extent, and in what relation, this patent has entered into the shoe grain drills manufactured by the Dowagiac Manufacturing Co.,—the Complainant, which also involved the features of the patent in suit.

A. This patent refers to wheel bearings and has been used by us since its first application on all press wheels manufactured for our grain drill construction; the pressure wheel being simply used as an attachment.

Q. 27. I call your attention to patent No. 448,861, of March 24th, 1891, to W. F. Hoyt for hopper and shoe for grain drills, ask you to consider the same, point out any advantages that it may contain and of what advantage it has been to the

Dowagiac Manufacturing Co., as you understand it, in the manufacture of its shoe grain drills here under consideration.

A. The patent referred to relates to the construction of the rear end of the shoe, and as I consider it, has been of advantage to the company largely in a saving of expense in material. The two plates of 11-gauge material as manufactured before this application for patent, would weigh 3.31 pounds; with the rear lower end clipped off as this patent shows, these plates would weigh 3.09 pounds, a saving in material and weight of .22 of a pound, or say *two* and *one-half* cents per pound, a saving of about five-tenths of a cent in the cost of material. The cost of the construction of the two is practically about the same.

Q. 28. Why do you regard this as a saving to the Dowagiac Manufacturing Co.? Was there a saving to the company on account of any great efficiency in the operation of the machine on account of this feature?

A. My experience in the field on drills of our construction has been rather limited and I hardly consider myself qualified to give testimony along that particular line.

Q. 29. State whether or not there was in existence a shoe with the lower rear corner cut off prior to this shoe.

A. As I remember it there was such a claim as this set up by some one of our competitor companies.

Q. 30. You do not know of such a structure, of your own knowledge then?

A. I do not know of such a structure of my own knowledge, no, sir.

Q. 31. Calling your attention to patent No. 492,802 issued March 7th, 1893, to W. F. Hoyt for seeding drill, contained in this book of patents, will ask you to consider the same and point out the advantages that resulted to the Dowagiac company, as you understand it, from the use of this structure, and state definitely what you have regarded as the novel feature from what you know of such grain drill constructions.

A. The novel feature referred to in this construction I understand to be the method or way of taking up the wear between the parts. This relates to a coil spring feature. There is not, to my understanding of the matter, any particular benefit to be obtained by the use of this particular device; There are other ways in which this wear is sometimes provided for by the use of,—say, individual washers, which can be added to or removed as the occasion may require. Also a construction could be used, and is sometimes used, providing for collar with set screw to take up this wear, but I can see no material advantage to be gained in any one of these over the others, except that possibly the coil spring is constant in its

action and would require a little less care in the use of the machine by the operator.

Q. 32. Kindly indicate the difference in the first cost of a structure involving the use of this spring and a structure involving the collar and set screw, indicating the same for each feed cup, which I understand correspond in number to the shoes on the drill.

A. There is used on each feed cup one of the springs; the cost of this spring is about five-tenths of a cent. Comparing this with a cast collar with set screw, I think such a collar could be made weighing, say, about two ounces, or .125 of a pound. Extending this at, say, 2.2 cents per pound for gray iron castings, would make the expense of casting about $.002. The labor on this piece for drilling and tapping would amount, approximately, to about the same. The cost of a set screw would be about $.003, or say a total of $.0091, as compared with the cost of a spring, about $.005. As compared with the loose washer proposition this would depend entirely upon the number of washers. They might want to use two or one dozen, so the comparative cost as compared with the coil spring would be regulated entirely with the quantity used. I do not consider much difference in the cost of the two; that is, the loose washer and the coil spring.

Q. 33. State whether or not there was any variation in the price or amounts received for the machines,—shoe grain drills, when these patented features referred to, were incorporated, if you are informed on that subject.

A. I am not fully informed on this particular subject but as I understand it there has been no material change in the price on account of the use of these features.

Q. 34. I call your attention to patent No. 627,381 of June 20th, 1899, to Wilmont Bills for register for grain drills and ask you to state when that device was adopted, and whether or not there was a change made in the price of the machine on account of adopting it and the reason, so far as you know, for adopting it.

A. This device was adopted by the company on or about the date of the application for patent. Our reasons for placing it on the machine was because of a desire on the part of our customer to tally the number of acres that the machine passed over in his seeding operations. So far as I know there is no advance made in the price of the machine on account of this addition.

Q. 35. I call your attention to patent No. 634,460 of October 10th, 1899, to Will F. Hoyt, for combination grain and grass seeder, and ask you to explain when the use of this device was begun and whether it has added to or decreased the expense of the shoe grain drill over other forms when the grass

seeder attachment is not in use, because as our figures have been made they have regarded the grass seeding device as an attachment.

Defendants' Counsel: The latter part of the question is objected to as leading and having no special bearing on the former part.

By the Master: He may answer the question. Objection over-ruled and exception noted.

A. This feature was adopted to our machines on or about the date of application of the patent. I do not think I understand part of your question.

Q. 36. I understand before this date grass seeder attachments had been supplied on the shoe grain drills and that this attachment and invention is an improvement pertaining to the grass seeder attachment. The question is whether, by making use of this grass seeder attachment, you were able to manufacture the grain drill and save expense in the production of the drill without this grass seeder attachment over the form of drill formerly manufactured without the grass seeder attachment?

A. I now understand the question. This feature of the grass seeder attachment did not affect the construction of the grain drill proper in any way.

Q. 37. I call your attention to patent No. 654,057 of July 17th, 1900, issued to C. L. Fowle, for feed ring for grain drill, ask you to indicate the extent of the use of the same, when such use began, whether there was a saving or an increase in the cost of manufacture, and whether the external appearance of the drill was materially affected by that feature.

A. The feature of this patent was adopted on or about the date of the application. It has been used continuously up to the present date but we intend to discontinue its use after this year. There is no appreciable difference in the cost of manufacture so far as I can estimate.

Q. 38. I call your attention to patent No. 705,030, issued July 22d, 1902, to W. F. Brown for shoe for grain drill, ask you about what time this structure was adopted, whether or not there was any variation in the price of grain drills on account of the adoption of this feature, and whether there was a saving or a lessening in the cost of manufacture in the structure of this patent.

A. This feature covered by this patent was adopted by the company on or about the date of the application and has been used by them continuously ever since. There is, in my estimation, a slight difference in the expense of manufacturing this part of the machine with this patented feature. The

additional cost would be practically the cost of the bolt or pin which is riveted to the shoe and used to attach the shoe to the hopper. This I would estimate to be, approximately, about three-tenths of a cent. There was no difference made in the price of our machines, so far as I know, on account of this improvement.

Q. 39. I call your attention to cut of Michigan drill, appearing on page 307 of the main record in this case, and ask you to state the comparative cost of the Michigan drill with the Dowagiac drills, indicating the same as well as you can without a minute inspection of all the parts, and wherein the difference in expense occurs principally. By expense I mean cost of production. In this connection state if you made such a drill as the Michigan, and also for the purpose of enabling us to understand exactly what this Michigan drill is, kindly produce one of the shoe sections with attachments.

A. I have observed the illustration referred to and will say that the Dowagiac Manufacturing Co. built such a machine as the Michigan. We have a section of the shoe with the spring pressure device and I will produce the same later. While I have not carefully figured the difference in the expense of manufacture of these two machines through, at the same time I can estimate for an average size a difference of about $2.00 per machine. This difference comes largely in the finish and material entering into the construction of the two devices; we are not as particular in the construction of the Michigan drill as we are with our regular "Dowagiac" construction and consider that this is approximately a fair estimate of the difference in the cost of the two.

Q. 40. State to what extent you are manufacturing the Michigan drill at the present time as compared with former years.

A. We practically abandoned the construction of the Michigan drill at the close of our 1904 spring business and contemplate the erection of but few of them the coming year, only to the extent of working up some little material that we may have on hand.

Q. 41. I have called your attention to all such parts of these schedules as Mr. McVicker said you furnished, and he also referred to matters furnished by Mr. Schmalzried. To entirely cover this ground I will ask you to glance at the exhibits and make sure that all you have furnished have been properly identified by you to avoid the necessity of calling you again.

A. I have examined the different exhibits referred to and find that those already mentioned as having been furnished by myself are the only ones in the entire lot so furnished by me.

CROSS-EXAMINATION BY MR. STALEY.

XQ. 42. My understanding from your direct examination is that Mr. Fowle is the Sales Manager and has, as a part of his duties, the making of prices in matters pertaining to sales. Is that right?

A. That understanding is correct.

Complainant's Counsel states Mr. Fowle will be called as as witness later on.

XQ. 43. I believe it appears, however, that you have furnished some of the prices used in connection with these schedules, or are familiar with them, and I will ask you, therefore, if you could state generally what was the selling price of Broadcast Seeders during the period covered by these schedules.

A. I can not furnish this information without reference to some records or papers pertaining to the business.

XQ. 44. Can you do this and furnish it by the time your deposition is written out?

A. Yes, I can do so and will furnish it.

XQ. 45. Will you kindly name some of your principal competitors in shoe drills during the period covered by the schedules referred to?

A. The Kentucky Grain Drill Co., The McSherry Manufacturing Co., Van Brunt & Wilkins Mfg. Co., J. S. Rowell Mfg. Co., The Monitor Mfg. Co. These are the principal ones. There are others who sold to the trade shoe drills, more or less, but I do not know to what extent.

XQ. 46. Among these others do you include the Cassopolis Manufacturing Co., Selby Starr & Co., and the Richmond-Champion, and if there are any others you think of please name them?

A. Yes, the Cassopolis Manufacturing Co., the Richmond-Champion Co., Selby Starr & Co. Also the Hoosier Drill Co., The Empire Drill Co., the Farmers' Favorite Co., and P. P. Mast & Co.

XQ. 47. Will you please state which of these companies named used the infringing device or devices for which you brought suit under the Hoyt patent?

A. We have brought suit against the Kentucky Drill Co., the McSherry Mfg. Co., the agent of the Richmond-Champion at Minneapolis; also against the agent of the McSherry Mfg. Co. at Minneapolis; against P. P. Mast & Co.; against the agent of the Hoosier Drill Co. at Minneapolis and against the agent of Selby Starr & Co. Also against the agent of the Cassopolis Mfg. Co. at Fargo. Also against the Poirier Mfg. Co. at Minneapolis.

XQ. 48. As I understand then, practically all of these

competitive companies except Van Brunt & Wilkins were believed by you to be infringers of the Hoyt patent in suit.

A. That is so.

XQ. 49. Which one of these companies did you sue first?

A. Our first suit was brought against the McSherry Manufacturing Co.

XQ. 50. If you know, state about when, and also about when it was decided.

A. As I remember it, suit was brought against the McSherry company in March, 1897, and was decided before Judge Clark in May, 1898, and the appeal decided in May, 1900, by the Court of Appeals.

XQ. 51. State, if you can, which was the first of these companies, which you consider as infringers, to enter the field.

Complainant's Counsel objects to the line of cross-examination as not proper cross-examination, and further as not pertinent to the accounting.

By the Master: Let answer be made and testimony admitted for the present. Objection over-ruled and exception noted.

A. As I remember it the Kentucky Drill Co. and the McSherry Mfg. Co. were about the first.

XQ. 52. You do not know which of the two was the first?

A. I can not say positively but think the Kentucky was.

XQ. 53. Do you know how many suits you have brought against these others before you sued the Kentucky Company?

A. No, sir; I can not say from memory; some three or four.

XQ. 54. Of the different parties named as competitors how did Van Brunt & Wilkins compare as to number of machines sold.

Complainant's Counsel objects to the question as not material.

By the Master: Objection over-ruled and exception noted.

A. Owing to my limited experience in the field I do not feel prepared to even give an estimate on that question.

XQ. 55. Can you give the number of men employed by your company during the different years covered by these schedules which purport to show the price of labor?

A. Yes, I can give such information and will do so.

XQ. 56. You have stated, I think, that your wages or price of labor have not materially changed during the period covered by these schedules. Will you give us the average price paid per man for labor during that time?

A. Yes, I will do so.

Adjourned until 1.30 o'clock P. M.
Met pursuant to adjournment, 1.30 o'clock P. M.

XQ. 57. I notice in the schedules in some of the later years, at least, there was a separation between productive labor and general labor. What I want is the wages paid for the productive labor as far as possible.

A. So I understand.

XQ. 58. In referring to the Michigan drill you say there was a difference of about $2.00 in the cost of this machine from your *regular* shoe drill, as I understand it, on an average size. What do you mean by an average size?

A. I would say about a 16-runner machine; that is, I mean to say that the 16-runner machine is about the average size Michigan drill produced.

XQ. 59. Does this difference in cost cover all sizes or just that one size?

A. Just the one size; a smaller machine would be proportionately less and a larger machine proportionately higher.

XQ. 60. I understand you have, since giving your direct testimony, produced a sample of this machine here. Is that right?

A. I have produced a sample furrow opening section of the Michigan drill.

XQ. 61. This sample shows single flat spring connected to a lifting device in the front of the boot and differs from the regular drill,—the spring pressure,—in this respect, the regular spring pressure having two rods connected to the lifting device in the rear of the boot. Is this right?

A. That is correct.

XQ. 62. This construction as employed in the Michigan drill is claimed to be an infringement of the Munn & Christman patent under which the defendants' structure in this case was made, is it not?

Complainant's Counsel: Objected to as immaterial.

Objection over-ruled and exception noted.

A. We have had such a claim made against us.

XQ. 64. The question was on the subject of litigation, suit having been brought against you, or one of your agents, for infringement. Is this not true?

Complainant's Counsel: Same objection as to the above question.

By the Master: Objection over-ruled and exception noted.

A. This is the fact.

XQ. 65. Schedules produced here show that during a part of the period, at least, you made single disc drills. These drills have been held to be an infringement of a patent not owned by your company. Is not this right?

Complainant's Counsel objects to the question as wholly immaterial.

By the Master: The same ruling will apply as to the above question.

A. This is correct.

XQ. 66. It is true, is it not, that you have advertised features covered by the patents introduced by you this morning as important features in your drill, along with the advertisement of other features of manufacture?

Complainant's Counsel: Objected to as immaterial.

By the Master: Objection over-ruled and exception noted.

A. We have advertised these features as being a part of our drill construction.

XQ. 67. Could you produce a file of your catalogues issued during the years covered by the schedules?

A. I don't know if I could produce a complete file or not but could for the majority of the years covered, and will do so if desired.

Desposition of the witness suspended at this time for him to secure information asked for about Broadcast Seeders.

At this point Mr. Hoyt again took the stand.

XQ. 68. Have you looked up prices of Broadcast Seeders, and if so please give them?

A. I have looked up these prices and for the years 1895 to 1902 inclusive, the net price to us on the 12 Bar Seeder was $28.35. For 1903 it was $28.22, and for 1904 the net price to us was $28.22.

XQ. 69. Now can you give the number of men employed in the different years, say, for instance, January of each year?

A. No, I have not compiled that information as yet.

XQ. 70. You refer in your direct examination to a patent on a press wheel as an attachment. This press wheel attach-

ment was also covered by the Hoyt patent in suit; that is, by claims which were not involved in the litigation against Brennan & Company. Is that right?

A. There are two patents on press wheels.

XQ. 71. You introduced one patent on a bearing. Now, I say, in addition to that there were claims in the patent in suit which were not included in this litigation?

A. Yes sir.

Deposition of the witness suspended at this time for him to secure the information asked for about the labor.

Deposition resumed.

XQ. 72. Have you now compiled the information about the number of men employed?

A. I have compiled the information regarding the number of men employed, choosing one pay day out of each year for such information and find that for the pay day ending January 17th, 1891, there were 77 men employed:

For pay day of				Jan. 23, 1892,	there	were	156	men	employed.
"	"	"	"	Jan. 23, 1893,	"	"	184	"	"
"	"	"	"	Feb. 16, 1895,	"	"	76	"	"
"	"	"	"	Jan. 18, 1896,	"	"	125	"	"
"	"	"	"	Jan. 30, 1897,	"	"	172	"	"
"	"	"	"	Jan. 29, 1898,	"	"	198	"	"
"	"	"	"	Jan. 28, 1899,	"	"	245	"	"
"	"	"	"	Jan. 27, 1900,	"	"	284	"	"
"	"	"	"	Jan. 26, 1901,	"	"	170	"	"
"	"	"	"	Jan. 25, 1902,	"	"	201	"	"
"	"	"	"	Jan. 24, 1903,	"	"	254	"	"
"	"	"	"	Jan. 23, 1904,	"	"	252	"	"

These numbers represent the total number of names appearing on the pay roll, some of whom had a full two weeks' pay coming to them, while others had less or a part of a full pay.

XQ. 73. Did you look up anything further about the wages paid?

A. I also looked up regarding the daily average wage for the same period and find for pay day ending Jan. 17, 1891, the average daily wage was $1.68:

For pay day of				Jan. 23, 1892	the	average	daily	wage,	$1.65
"	"	"	"	Jan. 23, 1893	"	"	"	"	$1.78
"	"	"	"	Feb. 16, 1895	"	"	"	"	$1.67
"	"	"	"	Jan. 18, 1896	"	"	"	"	$1.75

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For pay day of Jan. 30, 1897 the average daily wage, $1.71
" " " " Jan. 28, 1899 " " " " $1.75
" " " " Jan. 27, 1900 " " " " $1.83
" " " " Jan. 26, 1901 " " " " $1.74
" " " " Jan. 25, 1902 " " " " $1.90
" " " " Jan. 24, 1903 " " " " $1.88
" " " " Jan. 23, 1904 " " " " $1.80

If so desired I can offer an explanation as to the higher average daily wage since 1902. Since 1902 the average daily wage appears to be somewhat higher than preceding years and I can explain this by saying that the higher average wage I attribute to the construction of double disc drills which have entered into our construction. I notice I have omitted the year 1894 but can obtain this data if it is so desired.

Complainant's Counsel desires to offer in evidence the section of Michigan drill produced by witness and requests that it be marked "Complainant's Exhibit, Section of Michigan Drill," and it is so marked by the Master with his name and the date, and is received in evidence.

RE-DIRECT EXAMINATION BY MR. CHAPPELL.

RDQ. 74. In the cross-examination you were requested to indicate the earliest date of infringement. What year did the infringement begin, if you remember, by any trespassers on the Hoyt patent in suit?

A. The earliest date, according to my recollection, was in 1892 or 1893.

RDQ. 75. Has the capacity of the plant of the Dowagiac Manufacturing Company, for the production of drills, been reached during the period covered by the schedules filed here?

A. No sir, the full yearly capacity has not been reached.

RDQ. 76. Has the plant been idle any part of the time?

A. It has.

RDQ. 77. Indicate to about what extent for each year, just as you remember, without reference to the books.

A. We have an annual close-down at the end of our spring business and this is for inventory and general clean-up purposes. This will vary in different years, running sometimes from 30 to 60 or 90 days, as the occasion may require.

RDQ. 78. When the plant was in operation was it operated to its full capacity or not?

A. No sir, not at all times.

RDQ. 79. It appears from the testimony already in in this case that since August, 1894, the defendant has manufactured from 10,000 to 14,000 shoe grain drills, distributed over that period up to the beginning of the present year. Would

the capacity of your plant have enabled you to produce that number of additional shoe drills, in addition to those you did produce? By *you* I mean the Dowagiac Manufacturing Co.

Defendants' Counsel: Objected to as immaterial and also

By the Master: Objection over-ruled and exception noted.

A. Yes, the capacity of our plant would have enabled us to manufacture this additional quantity.

RDQ. 80. Assuming that other trespassers had manufactured or have manufactured as many more shoe drills in the same period do you think your capacity would have been such that that demand could also have been supplied?

Defendants' Counsel: Last objection repeated.

By the Master: Objection over-ruled and exception noted.

A. Yes, we think we could have supplied that additional quantity if the occasion had demanded it.

RE-CROSS EXAMINATION BY MR. STALEY.

RXQ. 81. How many men do you think you could work in your factory in the year 1894?

A. Judging from the year 1893 in the neighborhood of 200 men.

RXQ. 82. You say, in one of your re-direct answers that you did not work your factory up to its capacity at all times. Did you a part of the time?

A. Yes, I consider when we were employing from 250 to 300 men we were working our factory to its full capacity.

RXQ. 83. Is it not a fact that during the period inquired about you have worked extra time in the evening?

A. We have worked quarter time for one or two months in the year only.

RXQ. 84. And it is true is it not that your company has never been in position, owing to the size of the place, to work a double shift; that is, night and day?

A. I do not consider that our company is dependent upon the labor of the town alone for its help as we could have gone outside for this additional help had we found it necessary.

RXQ. 85. If one of your officers, as testified in this or another case involving the same questions,— that it was impracticable, if not impossible, for you to operate your shop on what is known as a double shift, would you still say that, in your opinion, you could so operate the shop?

Complainant's Counsel: Objected to as incompetent.

By the Master: Objection over-ruled and exception noted.

A. Yes sir, in my judgment it could be done.

RXQ. 86. You mean by that it could be done at a profit to your company, do you?

A. Yes, sir, I do.

RXQ. 87. You stated in your re-direct examination that you thought the trespass by some infringer began in 1892 or 1893. Which of these years would you fix as the date?

A. I can not say exactly without reference to the papers but I think, though, 1892.

RXQ. 88. If it was 1892 which company would you say begun first?

A. The Kentucky.

RXQ. 89. Referring to the Michigan drill, of which you have produced a sample of the furrow opener, did this drill have the same parts except the furrow opener sections as the other shoe drills of your manufacture?

A. Practically so, yes.

RXQ. 90. Did you aim to spend as much for advertising and for selling expense in disposing of the Michigan drill as you did your other products?

A. I have nothing to do with the advertising or sale part, which is under the charge of Mr. Fowle, so do not consider I am qualified to answer that question intelligently.

DEPOSITION CLOSED.

IT IS STIPULATED between Counsel hereto that each party may retain possession of any mechanical exhibits offered in evidence, subject to reasonable inspection and use by the opposing Counsel to be produced before the Court at any argument that may there be required.

Otto Schmalzried deposed and testified as follows, in response to interrogatories by Mr. Chappell: —

Q. 1. Please state your name, age, residence, and occupation?

A. Otto Schmalzried, age 43 years; residence, Dowagiac, Michigan; occupation, bookkeeper for the Dowagiac Manufacturing Co.

Q. 2. For how long a time have you been bookkeeper for the Dowagiac Manufacturing Co.?

A. Since July, 1898; almost six and one-half years.

Q. 3. What was your experience before that, as a bookkeeper?

A. I had an experience of about 13 years, both in wholesale and retail lines.

Q. 4. Mr. McVicker, in his testimony, has stated that you

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furnished to him certain schedules and matters. Will you kindly refer to these schedules that have been offered in evidence, which lay on the table before you, and indicate what matter it was that was furnished to Mr. Vicker by you?

Defendants' Counsel: I wish to make the same objection as heretofore made to these exhibits on the ground of their incompetency, in-so-far as they relate to data from documents or books or papers not produced.

By the Master: Same ruling as heretofore made in regard to the exhibits.

A. I find here a statement marked "A" General and Selling Expense, etc." Source of information used in part and copied for Exhibit 3. The figures made in indelible pencil, and also those with red pencil were made by me. The figures with lead pencil were not made by me.

Another statement I find is marked "D" Schedule of Implements Sold 1891-03. All figures and writing on the statement with indelible pencil were made by me, while the lead pencil figures in the first section of this statement, were made by my assistant in my presence and under my direction. The figures in the second column of this statement were not made by me but appear in the handwriting of Mr. Hoyt.

Another statement I find, marked "C" Schedule of Prices of Material, 1891-3, 1894-04." The figures made with indelible pencil were made by me in part and mainly by my assistant in my presence and under my direction and at my dictation.

Q. 5. From what sources did you obtain this information appearing in these schedules which you have identified?

A. From the records of the company, consisting of ledger, journals, sales book, contracts, and invoices.

Q. 6. The statements are exactly according to the books, are they so far as you were able to make them in this way?

A. They are.

Q. 7. I have heretofore requested you to prepare a schedule of the Michigan drills with the net prices received therefor. Have you such schedule prepared?

A. I have, and my stenographer is now at work preparing a memorandum, in explanation of that statement, to be attached thereto.

Q. 8. As soon as the memorandum is completed kindly produce it.

Witness produces the schedule with memorandum attached. The schedule with memorandum attached is hereby offered in evidence by Complainant's Counsel, with the re-

quest that it be marked "Complainant's Exhibit, Schmalzried schedule of Michigan drills, and memorandum."

Defendants' Counsel: The schedule referred to is objected to as incompetent and irrelevant for reasons heretofore stated in objecting to the other schedules, and the testimony based thereon.

By the Master: The objection will be over-ruled for the present, subject to exception later.

Q. 9. From what sources was this information that you have furnished in this schedule obtained?

A. From the books of the company.

Q. 10. Did you do the work personally?

A. I did.

Q. 11. And the same accurately represents, in tabular form, what the books show? Is that right?

A. That is right.

Q. 12. What do the books of the Dowagiac Manufacturing Co. consist of to make complete records of sales and complete records of materials purchased, etc., during the period covered by the statements in these schedules filed in this accounting; that is, from June, 1891, until the end of June of the present year? A general statement only is asked for.

A. They consist of journal, sales books, and invoices.

Q. 13. What kind of books are the sales books?

A. The sales book is what is sometimes known as an invoice book. In that book is copied all invoices covering shipments from Dowagiac.

Q. 14. By what method is the copying done?

A. By impressions of the original invoices.

Q. 15. Does this book show any other matter?

A. No, it contains no other matter.

Q. 16. What record would show any goods returned?

A. The receiving reports show goods returned.

Q. 17. How is that record kept?

A. That is in book form. As goods are received a report is made out and put on file and these original reports form a book at the end of the year.

Q. 18. Then these impression sales books and the books you have just referred to, would show all goods shipped out and such goods as were returned during this period, would they?

A. No, they would not for the reason that the sales books, such as I have explained regarding, were not commenced until 1895. Prior to that time record of shipments was made on the Journal.

Q. 19. Were these records kept by themselves in any way prior to 1895; that is, were they separated in any way?

A. No; the complete record of the shipments was in the Journal.

Q. 20. From what source did you obtain the information of these sales appearing on this schedule; from the sales book?

A. There was no sales book kept for the first year,— not until 1895. In order to get the shipments I took the Journal and made a statement of all outgoing shipments from there. For 1895 I used the sales book, or this book in which impressions of invoices appear; for the subsequent years, commencing with 1896 I used a shipping record which was commenced at that time, in which all out-going shipments are recorded.

Q. 21. From what source did you obtain the information of goods returned, if you obtained such a list?

A. Up to 1895 I took the credit side of the Journal showing goods returned. For subsequent years I used the receiving reports.

Q. 22. Do these invoices or sales books indicate the price of the goods shipped out?

A. The invoice shows the list price of the goods shipped out.

Q. 23. Regarding materials received which enter into the product of the company, what records have you that show the price, or what was paid for the same?

A. I have the invoices for it, as well as contracts.

Q. 24. The invoices show these items complete, do they?

A. They do, yes.

Q. 25. In what form are these invoices kept?

A. For the early years, as well as I now remember,— and I mean the early part of the period covered by this matter — they were pasted in a book such as is generally known as a scrap book, or used for the purpose of a scrap book. In 1895 and subsequently the invoices were filed in cases, and have been so ever since.

Q. 26. By cases you mean regular indexed files?

A. Yes, sir.

Q. 27. Are these books and records to which you have referred very bulky?

A. If you mean the sales books, journals, shipping record, receiving reports, those used in the early part of this matter are not bulky, but the later books have become bulky by the requirements of the business.

Q. 28. I was referring principally to the sales books and the invoices of material. Are these bulky?

A. The sales book is not bulky but the invoices for material are scattered through different indexes or files covering each year,— sometimes as high as 5 or 6 cases about 4 inches thick for each year.

By the Master: Just give us some idea, if you can, of the size or volume of all various books, journals, ledgers, papers, and other memoranda that were necessarily used in making up these statements you have filed.

A. For the years prior to 1895 there were, in each year, two books; one being the Journal, and I estimate the size of that book about 1½ ft. by 1¼ ft. in length and width and about 2 in. in thickness. The receiving report file is about one foot square, and contained enough reports to make about one inch or 1½ in. in thickness. The books in which the invoices were pasted for those years were, as well as I now remember, three in number, the average size of which was 1¾ ft. by 1 ft. and about 5 in. thick. These books I believe cover the period up to June or July of 1895. For the subsequent years the invoices were filed in filing cases, and during that period from 30 to 35 cases were filled. The shipping record for the first three or four years following 1895 is about 2 ft. by 1½ ft. and 1 in. thick. The receiving reports, as they are in the files, average about 1 ft. by 1 ft. and about 3 in. in thickness.

By the Master: Were there a large or small number of these invoices covering these years?

A. There were quite a number. I remember when using them they filled a space about 8 ft. long by 2½ ft. wide and 1½ ft. high.

Q. 29. Concerning the period prior to 1895 you say the shipments, or sales, were entered in the Journal. Were the orders preserved?

Defendants' Counsel: Objected to as irrelevant and immaterial.

By the Master: Objection over-ruled and exception noted.

A. Yes, they were preserved.

Q. 30. Were they checked to the Journal?

A. No, I did not check them with the Journal.

Q. 31. In making the journal entries was there a check mark put on the order showing where they were entered?

A. That I do not now remember as I did not examine the orders.

Q. 32. Could you ascertain?

A. Yes. I have, since the question was asked, examined the orders and I find on the lower right hand corner of each figures to indicate the journal page in which entered. I wish to state, however, I have only examined the first ten of each file and find the same figures on each.

Q. 33. Kindly indicate all of the books of every description whatsoever for the fiscal year of 1891-2.

A. Journal, ledger, sales book, shipping record, receiving

reports, and invoices covering the purchase of materials. In addition to these there are auxiliary records, such as cash record, bills receivable record and bills payable record.

Complainant's Counsel states that the entire set of books for the fiscal year 1891-92, the orders up to the year 1895, the impression invoice or sales books from that date on up to the beginning of the year 1904, all invoices relating to materials purchased, and the receiving reports covering that period, are offered the Defendants for inspection; and regarding the orders up to the year 1895 with a reference to entries regarding the same in the journal it may be made without inspecting the journal as to other items, such reference to the journal to be in the presence of some officer or representative of the Dowagiac company; that these books and papers are bulky and it is desired that they be retained here at the offices of the Dowagiac Manufacturing Co., but otherwise they are offered for inspection and considering the reports that are made here the witness will cheerfully make reference to indicate from these records where he has obtained the data.

Q. 34. The matter that I have offered to the inspection of the defendants will enable them to verify the matter which you have submitted, will it?

A. Yes.

Q. 35. There is nothing further that would be necessary is there?

A. Yes, since you have spoken of it, I have not mentioned the transfer records that the company have. The transfer record was commenced about 1895 and was for the purpose of keeping trace of goods shipped for storage and transfer to other points. It is from that record that I have taken the goods that are on hand.

Q. 36. How extensive a record is this?

A. It consists of four or five books of a size about 2 ft. by 1½ ft. and 1 in. thick.

Q. 37. Do these books contain any other matter?

A. They contain nothing else other than record of shipments to transfer points and reshipment from those points.

Q. 38. Are these books impression books?

A. They are not. They are books in which a record is made from the sales book covering goods shipped to transfer points. I recollect I have heretofore stated the sales book containing impressions of invoices had the price extended at list but this does not apply to copies of invoices covering goods shipped to transfer points.

Q. 39. These shipments appear in the impression book besides, do they?

A. Yes, sir.

Complainant's Counsel also offers in this connection the records of transfer just mentioned by the witness as of assistance in this connection.

Defendants' Counsel states he accepts the offer and will gladly make use of the books offered, but that it is impractical to do so at this time, coming at the close of the session, and suggests that a later date be agreed upon and that the books be held subject to the order of the Master, to be produced at such time as will be convenient to both parties, but he does not attempt to state at this time that these are all the books necessary for the purpose.

Complainant's Counsel wishes to inquire whether or not it will be necessary to have a formal session or whether an inspection of the books without the presence of the Master will be sufficient?

Defendants' Counsel: I should say it would not be necessary to have a formal session. If the books should develop any facts which would require further examination of the witness we might note, and an arrangement made with the Master to take further examination.

No Cross-Examination unless it should be found necessary upon inspection of the books.

Complainant's Counsel asks that a reasonable notice of the inspection of these books be given Complainant so they will not be discommoded.

Defendants will gladly comply with the request.

Adjourned to meet on telegraphic or other brief notice, at the convenience of the Master and Counsel.

UNITED STATES CIRCUIT COURT.

WESTERN DISTRICT OF KENTUCKY.

DOWAGIAC MANUFACTURING CO.,

Complainant,

vs.

BRENNAN & CO., ET AL.,

Defendants.

Testimony taken before A. G. Ronald, Esq., Master, at Minneapolis, Minnesota, on Monday, December 12th, 1904, Mr. Fred L. Chappell appearing for the complainant and Mr. Border Bowman for the defendants.

FRANK H. RETZLAFF, after being first duly sworn on behalf of the complainant, deposes as follows in answer to interrogatories by Mr. Chappell.

Q. Please state your name, age, residence, and occupation.

A. My name is F. H. Retzlaff; I live at New Ulm, Minn.; I am in the hardware and agricultural implement business; I am 40 years old.

Q. Are you familiar with the grain drill known as the Dowagiac shoe grain drill?

A. Yes, sir, I am.

Q. That is a grain drill having a pair of steel rod springs extending back of the boot, with connections for applying pressure, the fronts of the springs being connected with draw-bars, is it not?

A. Yes, sir.

Q. When did you begin business at New Ulm?

A. In 1886.

Q. When did you become familiar with the style of Dowagiac shoe drill to which I have referred?

A. I think it must have been about 1895.

Q. What has been your experience with the Dowagiac drill; have you been handling the same as a dealer?

A. Yes, sir.

Q. For how long a time?

A. About 9 years.

Q. Are you familiar with the shoe drill known as the Kentucky shoe drill?

A. Yes, sir.

Q. In what way did you become familiar with the Kentucky shoe drill?

A. It was sold by Mr. C. H. Hornberg, my principal competitor.

Q. When did he begin the sale of the Kentucky shoe drill?

A. I think it must have been 1899 or before.

Q. To what extent was it a competitor; did it interfere with your sales?

A. It did after it was introduced.

Q. State to about what extent, so far as you are able?

A. I judge after it was introduced it took about half of the trade that I had.

Q. Were there other shoe grain drills in competition with you?

A. Yes, sir.

Q. Which of the shoe grain drills, including the Kentucky, did you consider the strongest competition?

A. The Monitor.

Q. Did you note that my question was, "including the Kentucky?" Was the Monitor stronger competition than the Kentucky?

A. No, sir, it was not. The Kentucky was the strongest.

Q. Do you know at what price the Kentucky drill was sold by your competitor?

Mr. Bowman: I object to that as immaterial. It does not relate to Brennan & Co., the defendant here.

The Master: I think the question might be material, Mr. Bowman, to show whether the comparison as to sales was because of the price or because of a certain construction in the drill. The witness may answer.

Mr. Bowman: Note an exception.

A. The 16 shoe drill was sold for $70, and the 20 for $90. That is about all I can remember the exact price on.

Q. How does that price compare with the price you received for Dowagiac drills of the same size?

A. It was about $5.00 less.

Q. Do you know whether or not there was any particular mention of the Dowagiac drill made when your competitor was making sales of Kentucky shoe drills?

A. I don't understand the question.

(The question was read to the witness.)

Q. The question means to ask whether or not your competitor referred to the Dowagiac drills and compared them with the Kentucky when he was selling the Kentucky.

Mr. Bowman: That is objected to as leading.

The Master: The question is leading.

Q. The question is withdrawn. State so far as you know what means were adopted by your competitor, Mr. Hornberg, in making sales of Kentucky shoe drills, so far as the Dowagiac shoe drill is concerned?

A. He used to carry two shoes; one was a Dowagiac shoe and one a Kentucky, and he canvassed through the farming community, and explained that the Kentucky shoe was similar to the Dowagiac, and superior in some respects in regard to the interchangeable heel, and also claimed that he had a better spring, which was adjustable; the Kentucky spring was adjustable to the different kinds of pressures required.

Q. How did you come by this information?

A. Through my customers which went to his place to buy drills and then afterwards came to my place, and thereby explaining what Mr. Hornberg had told them.

Q. What was your largest sale of Dowagiac shoe drills in any one year?

A. The largest sale in any one year?

Q. Yes.

A. (The witness refers to a little memorandum.)

Mr. Bowman: That seems to be secondary evidence; I suppose he takes it from his books, does he? I suppose his books would show it.

A. The largest sale; does that mean numbers?

Q. Yes.

Mr. Bowman: I suppose the books would be the best evidence.

Mr. Chappell: If he knows of his own knowledge I don't see why he isn't entitled to swear to it. I am not asking what his books show. I am asking what the fact is.

Mr. Bowman: It is objected to on the ground that it calls for secondary evidence, in that the books of the witness are the best evidence, if he keeps any.

Mr. Chappell: The books are the best evidence of what the books show. We submit that the witness can swear to the

facts, without reference to his books, if he sees fit and if he knows.

The Master: I will over-rule the objection.

Mr. Bowman: Let the record appear that he refers to a memorandum.

The Master: There is nothing before the Master to show that the proposed testimony is a copy or an extract from any books of the witness.

Mr. Bowman: Note an exception.

A. (Referring to memorandum) In 1900 I sold 56 Dowagiac drills.

Q. Had you sold a larger number in any year before that?

A. I did, but I don't exactly remember the amount.

Q. The year 1900 as I understand was after the Kentucky drill was introduced at New Ulm?

A. Yes, sir, just about being introduced then.

Q. Describe briefly the kind of spring structure there was on the Kentucky shoe drill with which you are familiar?

A. The Kentucky had a flat spring on top of the shoe.

CROSS-EXAMINATION.

By Mr. Bowman.

Q. Mr. Retzlaff, what memorandum are you referring to in answering as to the number of drills sold in 1900?

A. Taken from my books.

Q. And your books have a complete record?

A. Yes, sir.

Q. Did you take this memorandum yourself?

A. The bookkeeper.

Mr. Bowman: I object to this testimony. He says that the bookkeeper furnished it from his books, and that is what he has based his testimony on.

The Master: Were these entries on the books made by you?

A. Made by my bookkeeper.

The Master: What have you to say to that, Mr. Chappell?

Mr. Chappell: What is your recollection about the number of drills sold?

Mr. Bowman: That is about 1900; that is four years ago.

The Master: I will ask him a question on that. Have you any recollection independent of your books as to the number of drills you sold in that year?

A. Yes, sir.

The Master: Can you testify from that recollection independent of the books?

A. Yes, sir.

The Master: Now, testifying from your recollection, independent of the books, how many drills did you sell in the year 1900?

Mr. Bowman: An objection to that is noted, and overruled and an exception. The books are the best evidence on that.

The Master: You may answer the question.

A. Between 50 and 60.

The Master: The Master on his own motion strikes out all of the testimony of the witness in regard to what the books show as to the number of drills sold in 1900, and Mr. Bowman wants an objection noted to the question asked by the Master and the objections are over-ruled and an exception noted.

By Mr. Bowman.

Q. When did Hornberg & Son first handle grain drills of the shoe type?

A. I do not know.

Q. When to your first recollection?

A. I don't recollect that Hornberg & Son were in business. I think that always belonged to C. H. Hornberg.

Q. About when did he first sell grain drills of the shoe type to your knowledge or your recollection?

A. It must have been 1888 or 1889, about that.

Q. What shoe drill did he then handle?

A. I think he handled the Monitor and the Kentucky.

Q. Do you know whether it was the Kentucky, or was it a drill that Deere & Webber handled?

A. It had the name "Kentucky" on the box. I don't know who handled it.

Q. When was it that Hornberg first introduced a shoe drill with a detachable heel?

Mr. Chappell: That is objected to as immaterial.

The Master: He may answer that.

A. I do not quite remember the year, but it must have been 1900.

Q. (Showing witness paper) I hand you a patent marked patent number 11,720, to Brennan & Christman, one of the patents of the defendant, in evidence, and call your attention to Figs. 5, 4, and 3, which purport to show a detachable

heel, and ask you if that is what you refer to as the detachable heel that Hornberg introduced?

A. Yes, sir, I think so.

Mr. Chappell: That is objected to, first, because the witness has not been sworn as an expert and it does not appear whether or not he understands the structure referred to in the patent. Second, it is not proper cross-examination, because there is no question in the direct-examination referring to this patent in any way.

The Master: I think I will let the answer stand.

Mr. Chappell: Note an exception.

Q. You referred to the adjustable feature of the pressure device in your direct examination. I call your attention to the Christman & Munn patent No. 497,864, which shows a cam at the front end of the drag bars, which can be moved to and fro, purporting to allow for adjustment; is that the feature that you referred to as the adjustable pressure?

Mr. Chappell: That is objected to for the reason last before stated, and in this connection I desire to bring the attention of the Master to the fact that this testimony can not be material at all unless it is to connect the structure distinctly with the patented structure, and I object for the reason that the witness, to that extent, must be called upon to testify as an expert to show that the features that he has referred to are within the patent, or else the testimony is not material at all.

Mr. Bowman: I am simply trying to get the witness to explain what it is he meant there by "adjustable." What he referred to.

The Master: The witness on his direct examination referred to an interchangeable or double shoe, I don't remember the exact language, and also to some adjustable pressure. Now the defendant shows him a certain drawing and asks him whether that is the feature to which he referred on his direct testimony, without in any way involving the question as to whether that feature is contained in this patent or not. I think it is competent for him to look at a drawing to see if he knows as to whether that is what he was talking about. Let the objection be over-ruled and an exception noted.

Q. Do you see the figure?

A. Yes, sir. That is the piece which changes the pressure of the spring.

Q. How many drills using flat springs for pressure, of the Dowagiac Company's make, or any other make, have you sold the last year or two?

A. Using the flat spring?
Q. Yes.

Mr. Chappell: That is objected to as immaterial. This testimony, as far as this witness is concerned, has related to a time prior to the decree in this case.

The Master: What is the object of that testimony, Mr. Bowman?

Mr. Bowman: I want to bring out the fact that both last year and the year before the flat spring pressure device has been gradually losing its foothold, and coil springs have been adopted.

The Master: How would that have any bearing on this question before us here?

Mr. Bowman: Well, I understand that it would in the sense that they call for a certain year, 1900, the number of devices he sold with flat springs. Can I not ask how many he has sold since then?

The Master: Oh, yes, you ask him as to this last year. I understand this accounting only takes up to 1903.

Mr. Bowman: I said the last two years.

The Master: The objection will be over-ruled to that.

Mr. Chappell: Note an exception.

A. I should think about 15.
Q. How many with coil springs?
A. About the same number.
Q. What are the conditions in your territory as to seeding; is sowing done in wet or dry, hard or soft ground?
A. Sometimes when the ground is wet and the time for seeding has come on we have to sow as the condition of the ground is at that time, sometimes wet and sometimes dry, and sometimes hard and sometimes soft.
Q. And that has been usually the way for the last ten years, has it not?
A. Yes, sir.
Q. Did you ever have occasion to obtain a shoe of the Kentucky style and keep it at your place of business?
A. Yes, sir.
Q. What object did you have in that?
A. I bought out some stock of Mr. Hornberg which he had when he sold out last spring.
Q. Did you ever before that order from a man by the name of Fritche, a Kentucky shoe?
A. I don't understand the name. Where does he live?
Q. At Lamberton I think. A dealer there who at one time furnished you with a Kentucky shoe; a sample shoe.
A. I had a Kentucky shoe, but I do not remember if I got

it from him or a man up at Redwood Falls. I don't remember.

Q. What was your object?

A. I showed the difference between the Dowagiac shoe and the Kentucky to my trade.

Q. And that was with reference to the detachable feature, was it not?

A. Yes, sir.

Q. And that was all that the shoe which you ordered of the Kentucky make showed?

A. Yes, sir.

Q. When was that?

A. I do not remember the year. It must have been somewheres about 1900.

Q. Did you not order that Kentucky shoe because your competitor had been talking a good deal about the detachable shoe; selling the Kentucky drill on the faith of that detachable feature?

A. Well, it is possible that that brought it about.

RE-DIRECT EXAMINATION.

By Mr. Chappell.

Q. What other drills besides shoe drills have been on sale in your territory since you began business in New Ulm.

A. A few hoe drills, and single disc and double disc drills.

Q. About what is the extent of the sales of hoe drills?

A. Very few; probably one or two since I have been in business.

Q. Your competitors selling hoe drills too?

A. Very few.

Q. About disc drills; when were they introduced, or when did you know of their being sold?

A. 1902, 1903, and 1904.

Q. How do the sales of these disc drills compare with the sales of shoe drills?

A. In 1902 we sold probably one or two single and double disc drills; in 1903 we sold very nearly as many disc drills as shoe drills; in 1904 we sold mostly all disc drills.

Q. State whether or not disc drills are patented drills, if you know?

Mr. Bowman: I object to that. If that doesn't call for expert testimony I don't know what it does call for.

A. I do not know.

The Master: I don't think it calls for expert testimony, but I don't see what it has to do with the case.

Q. What make of disc drills did you handle?

A. The Dowagiac.

Q. What other makes of disc drills were sold in your territory during that time?

A. The Kentucky, the Van Brunt, and the Fountain City.

Q. Do you know of the Superior Disc Drills?

A. No, sir, I don't know anything about it.

Q. What kind of a spring is used on the disc drills?

A. Coil spring.

Q. When did your competitors begin handling disc drills, if you know?

A. The same time when I did.

RE-CROSS EXAMINATION.

By Mr. Bowman.

Q. (Showing witness pamphlet) I show you what purport to be pictures of disc furrow openers, or parts of disc drills, and ask you how they compare with the devices that you sold and others sold in your territory, in a general way?

A. Well, in construction they are partly alike, but there is a difference.

Q. What difference do you now recall in these furrow openers? I refer to page 4 of the catalog of the Kentucky Drill Co., identified as "Defendants' Exhibit Kentucky Drill Co.'s Catalog A."

Mr. Chappell: That is objected to as immaterial.

The Master: Now, I have not said anything, because there has been no objection made to this, but I would like to be enlightened as to what this whole disc drill business has to do with the controversy we have here. Both sides have gone into it.

Mr. Bowman: I supposed we would reserve that for the argument.

Mr. Chappell: I will state, for the benefit of the Master, that Mr. Bowman's questions were directed to the superseding of the rod and flat spring for coil spring pressures within the last year or two, and I went into that question because they have been superseded by coil spring structures of disc drills, and for no other reason. I will state further that these disc drills which, so far as I am informed, are a recently patented structure, are coming into quite extensive use. I do not think that cuts any particular figure as to the question of the particular structure of shoe drills, but I wish to make it entirely clear as to the application of the coil spring structure to which counsel has referred.

The Master: You can let it go in. I can't see the materiality of it at present.

Mr. Bowman: I would like to make this statement; that as far as we have gone, Mr. Chappell seems to claim that the spring pressure has made a shoe drill salable, and that he claims the whole profits of the drill. My understanding is that one question to be determined is whether there was any device open to the public which the defendant here could have used with the same result, and my questions have been directed simply to that proposition. Mr. Chappell states that this is patented; this is protected. His client many find out it is, and it may not be. I would like to bring out just what kind of a disc device the witness is referring to. There are some that are patented.

The Master: Lets get back to the question to the witness then.

(The last question was read to the witness).

Mr. Chappell: I repeat my objection, because the testimony of the complainant has been directed to spring pressure devices only.

The Master: I am very uncertain as to the materiality of any of this testimony, but I am going to let it go in for the present, because the question seems to have been gone into by both sides.

A. The furrow opener is about the same. The difference comes in in the scraper.

Q. You now refer to the Dowagiac closed delivery device, and the Van Brunt and others?

A. Yes, sir.

Mr. Chappell: I wish my objection to apply to the details of construction of disc drills. We didn't open up that subject on the direct.

The Master: Let it be noted. I want to ask the witness one or two questions.

By the Master.

Q. If I understood you correctly on your direct examination, you testified that after the advent of the Kentucky shoe drill as a competitor in your section, your sales of the Dowagiac shoe drill decreased about 50 per cent?

A. Yes, sir.

Q. Now if you can do so from your own knowledge state what feature it was in the construction of the Kentucky shoe drill that caused it to be such a competitor, and to so decrease the sales of the Dowagiac shoe drill.

Mr. Bowman: I would like to note an objection to that on

the ground that it calls for a mere surmise on his part, or opinion. The only way you can prove that is by having the customers and people who bought it. Farmers. This is a mere assumption on his part.

Mr. Chappell: It seems to me to call for a conclusion of the witness that is not for him to state.

The Master: Well, neither one of you seem to want the question, so I will withdraw it. All I want to get at is the facts. Let the question be withdrawn.

By Mr. Bowman.

Q. Did you sell what were known as the Michigan shoe drills of the Dowagiac Company?

A. Yes, sir, I did.

Q. That was a cheaper drill, was it not?

A. Yes, sir.

By Mr. Chappell.

Q. When did you sell the Michigan?

A. I think since 1899.

Q. What kind of a spring pressure device did the Michigan have?

A. A flat spring.

Q. How much cheaper drill is the Michigan as you sold it?

A. The cost at wholesale?

Q. How much cheaper than the regular Dowagiac did you sell it? What price did you obtain for it?

A. $65 for the 16 shoe.

Q. Did you sell other sizes of Michigans than sixteens?

A. Twenties.

Q. What did you get for the twenties?

A. $85.00.

(The signature of the witness, in the presence of the Master and Counsel, to this deposition is waived.)

JOHN R. JONES, after being first duly sworn on behalf of the complainant, deposes as follows in answer to interrogatories by Mr. Chappell.

Q. State your name, age, residence, and occupation?

A. My name is John R. Jones; I live at Hankinson, North Dakota; my business is lumber and implements; age 47.

Q. Are you familiar with the Dowagiac shoe drill which has a pair of rod springs connected at the front end to the draw bars and extending to the rear of the boot with connections for applying pressure?

A. Yes, sir.

Q. When did you become familiar with that style of Dowagiac shoe drill?

A. I think about the year 1891.

Q. What has been your experience and acquaintance with that machine?

A. I found it was a good seller; took with the farmers.

Q. You have been engaged in selling that machine then, have you?

A. Yes, sir, ever since.

Q. For how long a time?

A. I think the year was 1891, and I have handled it ever since. Every year.

Q. What was the extent of your sales the largest year?

A. The largest year was 152 machines, principally 22 shoes 6 inch. The next was 135; no, one year 142, and one year 135.

Q. About what year was it that you sold 152?

A. Either 1898 or 1899.

Q. What other grain drills have been in competition with the Dowagiac, beginning say with the year 1891, in your territory?

A. The Kentucky and Sucker State. I am speaking of my territory where I handled the Dowagiac. The Sucker State would come in as competition at Lidgerwood, which was also in my territory.

Q. That did not come in competition with you at Hankinson?

A. No, sir. Simply the Kentucky drill at Hankinson.

Q. Was the Kentucky drill also sold at Lidgerwood?

A. Well, sir, I don't recollect.

Q. To what extent was the Sucker State drill sold?

A. Just one season.

Q. Do you know about how many?

A. Not to exceed 2 dozen.

Q. What kind of a spring pressure device did the Sucker State have?

A. Coil springs.

Q. Do you know by whom it was manufactured?

A. No, sir, I don't.

Q. State the extent of the competition of the Kentucky shoe drill.

A. Well, it was a bone of contention every day during the drill season; they could buy the Kentucky for such and such a price, and it was thrown in my face that it was a drill, and they would endeavor to prove to me similar to the drill that I was handling, claiming that the shoe was identically the same.

Q. What did you do to meet the competition?

A. In 1896 I had a customer who was a good friend of mine

who wanted to buy a 26 shoe Dowagiac; he figured quite a while, and finally I saw him with a Kentucky drill on his wagon, or sleigh. It was early, in March I think it was, and I says, "How did you come to get that?" He says, "Well, I gave you a chance ——"

Mr. Bowman: I object to going into this. This is hearsay evidence.

The Master: Give the result of the conversation. You can state whether he bought your drill or bought the other drill, but it is not competent for you to state what he said.

A. "I gave you a chance to sell the drill ——"

The Master: Don't state what was said.

Mr. Bowman: The answer is not responsive.

Mr. Chappell: I suggest that the witness be allowed to answer the question in his own way.

The Master: Yes, I think under the circumstances I will let him go on and answer the question. Not strike it out.

Q. You may go on and finish your answer.

A. He said, "I wanted your drill but you were too high in your price," and the final end of it was, I says, "Unload your drill and I will give you a drill." So I exchanged with him giving him a 26 shoe 5 inch Dowagiac for his 26 shoe 5 inch Kentucky drill. So I set that Kentucky drill out in my warehouse as a sample so as to compare the two drills in my future sales. Had it on my hands about 4 years before I finally disposed of it.

Q. Was there any cut in the price of Kentucky drills?

Mr. Bowman: I object to that as leading.

Q. Question withdrawn. Please state how the price of Kentucky drills compared with the Dowagiac drills, so far as you know?

A. They were sold at and offered to farmers at a less price than what the market price was of the Dowagiac drills. This was one reason that compelled my friend Prindle to take the 26 shoe 5 inch Kentucky drill. He wanted my drill.

Q. Did you ever hear the local agent discussing the drills and making sales?

A. Yes, sir, and the very point he would always tell them was that it was a fac-simile of the Dowagiac drill; that the shoes were identical.

Q. Who was your competitor?

A. Fred Worner.

Q. State the structure of the Kentucky shoe drill which was sold in competition with the Dowagiac, so far as the shoe and spring pressure features were concerned.

A. The shoe was very similar, although it was not cut off quite as much in the heel as the Dowagiac, and then the way it was hung on the drill would give the Kentucky shoe more of the shoe longitudinally in the ground; that is, more shoe would go in; dig in the ground. In other words, the Dowagiac shoe was so hung that the drill would run more on this heel, and for that reason I could verify that it run lighter; prove that it run lighter, and was not so apt to clog, on account of the Dowagiac being cut — more of the heel being cut off to give a chance for the grain to drop down.

Q. But about the spring pressure device, how was the structure of the Kentucky spring pressure device on their shoe drill?

A. Well, I could not explain it now, but it is something similar to the Dowagiac.

Q. What kind of a spring was it that applied the pressure to the shoe?

A. Well, sir, I can't testify on that point.

CROSS-EXAMINATION.

By Mr. Bowman.

Q. What are the conditions of seeding in the country you are familiar with, whether it is done in wet, dry, or soft, or hard ground?

A. Well, both.

Q. Has there been any change in the past years from preceding years as to those conditions? In other words, do the farmers sow now under the same conditions as they did formerly?

A. Well, the disc drill is coming in use there now.

Q. My question was more directed to the conditions of sowing, whether they sow in more wet ground now than they did in former years, or what would be the fact.

A. There is no difference in that respect.

Q. Was not the Van Brunt a competitor in your territory or through parts of North Dakota?

A. I have had no trouble with the Van Brunt whatever.

Q. Has it not been increasing in favor right along?

A. Not in my territory.

Q. What devices have been increasing in favor the last two or three years?

A. Disc drills, both single and double.

Q. What makes?

A. The Dowagiac and Monitor disc drills.

Q. Has the Sucker State made a disc drill?

A. Not that has come in our territory whatever. Not one.

Q. And how much territory do you claim to be familiar with?

A. Well, the last few years it is simply at Hankinson. I used to have Lidgerwood, but for the last four years that territory is divided between myself and Movious Brothers.

Q. So your testimony would relate as to Hankinson and —

A. Hankinson, and Vernon, South Dakota, and Rutland, North Dakota, in Sargent County.

Q. The man referred to in your direct examination by the name of Worner, is he not now in your employ?

A. He is working for me indirectly for the International Harvester Co. I am handling the McCormick Harvester, and he has been their expert and collected for them.

Q. How long has he been working indirectly for you?

A. Two years. He worked for me last season and this season.

Q. Do you pay him or do they pay him direct?

A. They pay him. He is handling the Geiser Threshing machine this fall.

Q. Does he make his headquarters at your place?

A. He makes his headquarters at my place, yes, sir.

Q. How many sales did you ever overhear your competitor making?

A. Well, sir, I believe that he must have sold as high as two dozen a year. I would not say that he got over that.

(The last question was read to the witness.)

A. Oh, I understand. I don't know that I overheard him make a single sale, but I overheard him talking to men, as his place of business was right between my warehouse and my blacksmith shop, so that I made it very convenient to step over to the blacksmith shop when I saw a farmer talking with him. So I overheard him making sales, or endeavoring to make sales, several times.

Q. How many times would you say?

A. Several times. Various times.

Q. Can you indicate what you mean by "several"; whether it is a hundred or fifty or twenty-five?

A. Well, at various times during different years.

(The signature of the witness in the presence of the Master and Counsel to this deposition is waived.)

FRED WORNER, after being first duly sworn on behalf of the complainant, deposes as follows in answer to interrogatories by Mr. Chappell.

Q. Please state your name, age, residence, and occupation?

A. My name is Fred Worner; my age is 41; my occupation at present is laborer or salesman; residence, Hankinson, North Dakota.

Q. Are you familiar with the implement business?

A. I am to some extent.

Q. How long a time have you been familiar with the implement business?

A. I was in business 15 years.

Q. At what place or places and during what period?

A. I was at Hankinson, and I had a branch house at Great Bend, North Dakota.

Q. What years?

A. I started at Hankinson in 1888.

Q. Are you familiar with the Dowagiac shoe drill which has a double spring rod pressure, the rods being connected to the front part of the draw-bar and extending to the rear of the shoe where the pressure is applied?

A. I am.

Q. How long have you been familiar with this Dowagiac shoe drill?

A. Practically since it has been sold there in town.

Q. What year would you think it began?

A. Well, I should think either about 1891 or 1892.

Q. What was your experience with the Dowagiac drill?

A. I know it was hard competition.

Q. What grain drill was you handling?

A. The Kentucky mostly. I handled a few others.

Q. What were the others, shoe drills?

A. Yes, sir.

Q. What make?

A. I had a few Hoosier and some Peorias.

Q. What was the spring pressure device on these spring drills? State what it was particularly on the Kentucky, on the Peoria, and on the Hoosier?

A. Well, they were a good deal the same. The Peoria had two flat springs applied, a good deal the same as the Dowagiac, and the Kentucky also. The Kentucky was one flat spring, and the Hoosier had a round spring with a coil in it, in front.

Q. What other grain drills were in your territory besides these to which you have referred?

A. Well, not any that I know of except the Dowagiac. There was a few Monitors sold towards the last.

Q. Monitor shoe drills?

A. Disc drills mostly.

Q. What sort of spring pressure device was on the disc drills?

A. I think they had a coil spring.

Q. When did you begin handling the Kentucky shoe drill?

A. Exactly I couldn't say. I could not state the exact time of it. I don't recollect.

Q. As near as you remember?

A. I should think about 1892.

Q. From whom did you purchase the Kentucky shoe drills in the first place?

A. From Deere & Webber. I don't know whether it was the Deere & Webber people at that time or whether it was Deere & Company.

Q. State what you did so far as the Dowagiac competition was concerned when you were selling Kentucky shoe drills?

A. What I did?

Q. Yes.

A. I would try and sell my machine.

Q. Did you refer to the Dowagiac drill in any way?

A. Oh, yes, occasionally.

Q. Did you make any comparisons between the Dowagiac and the Kentucky? What was stated by you in that connection to prospective buyers?

A. Principally on the spring, mostly.

Q. What did you say to them about it?

A. I claimed I had the best spring, because mine was a flat spring and they had two round springs.

Q. Did you discuss the matter of the Dowagiac competition with Deere & Webber or their representative?

A. Oh, we talked it over at various times.

Q. What was the burden of the conversation?

A. Well, that their drill was as good as the Dowagiac drill; they were built on the same principle.

Q. Did you discuss the Kentucky drills as far as other competitors were concerned?

A. Oh, we did, yes, some.

Q. What were the other competitors?

A. Well, there was the Monitor disc drill, which don't come under the shoe line.

Q. You say the Monitor disc drill was sold some there; when was the Monitor disc drill sold there?

A. Well, it was only the last few years that I was in business.

Q. About what price did you obtain from the farmers for Kentucky drills?

A. Well, the price was not always exactly the same in all cases.

Q. What was your regular price supposed to be, if you had a regular price?

A. $110.

Q. For what size?

A. 22 shoe, cash in the fall.

Q. The smaller sizes, how did the prices run?

A. Well, the 16 shoe was about $80; the regular price.

Q. About what do you think your price would average, considering that at times you took less money?

A. I think it would average pretty close to about $110 throughout.

Q. What was the lowest price you ever sold a 22 shoe drill for?

A. $100.

Q. Did you ever offer them for a lower price and fail to make sales?

A. Not that I know of; I don't remember.

G. Did Brennan & Company or Deere & Webber ever come and make sales in your territory when you had been talking with customers?

A. No, sir.

CROSS-EXAMINATION.

By Mr. Bowman.

Q. Mr. Worner, what features did the Kentucky drill have that the Dowagiac did not have, that you can recall?

A. Well, they had a flat spring instead of two round springs.

Q. Do you remember that it was adjustable?

A. Yes, sir.

Q. Had cams in front of it?

A. Yes, sir.

Q. Was that a feature that you talked?

A. Yes, sir.

Q. How as to the detachable heel feature?

A. That was at last done, but on the start they didn't have a detachable heel.

Q. Do you remember when they introduced the detachable heel; do you remember what year it was?

A. No, I don't. I couldn't state the time. I handled it I should think about four years with the detachable heel, if I recollect right.

Q. Is it not true that after you got that detachable heel your sales increased much more than before?

A. No, I couldn't say that.

Q. After you did get that detachable heel did you not make quite a good deal out of it, that is in the way of a talking point?

A. I did.

Q. And your customers were educated to that feature?

A. Yes, sir.

Q. In a shoe drill what parts are important in the construction of a drill?

A. Well, principally the shoe and spring.

Q. Then that eliminates the general construction of the frame and the hopper and feed devices?

A. Oh, yes. The feed device and the frame part are always strong enough, all of them.

Q. Did you handle or have you handled other than the Kentucky and Monitor, was it?

A. I didn't handle the Monitor any. It was handled there I said.

Q. What?

A. I say it was handled. The Hoosier and Peoria, I handled them.

Q. The Kentucky, the Hoosier, and Peoria?

A. Yes.

Q. Did you handle any others during the time you have been in the drill business?

A. I think I handled two or three Superiors too, that is in the early beginning.

Q. Were they Superior shoe drills?

A. Yes, sir.

Q. They were the ones made by or sold by Deere & Webber?

A. I don't recollect now whether it was Deere & Webber or Dean & Company.

Q. Was there anything the matter with those shoe drills?

A. Well, they didn't seem to prove satisfactory.

Q. To your customers?

A. To our customers.

Q. How many do you think you sold?

A. I think I sold about half a dozen.

Q. Customers right in your neighborhood?

A. Yes, sir.

Q. Were they all returned?

A. Oh, no, they wasn't returned.

Q. Have you not known of the Van Brunt drill in North Dakota?

A. I have.

Q. To what extent to your knowledge has the Van Brunt device and drills like it been sold the past years?

A. In our territory?

Q. No, in North Dakota I said.

A. In North Dakota. That is a big territory. I couldn't say.

Q. You would not attempt to say?

A. I would not.

Q. But you know that it has been sold?

A. Yes, sir.

Q. Do you know that manufacturers generally have been copying the Van Brunt and selling it there in North Dakota.

A. Well, the Van Brunt has been sold there. In 1891 I think I bought ten of them, Van Brunts.

(The question was read to the witness.)

A. Copying after what? What was they supposed to copy after.

(The question was again read to the witness.)

The Master: What is the materiality of all this?

Mr. Bowman: As I stated before, I think it will be clear that the Van Brunt, according to Mr. Chappell's contention, is an open device; open to the public.

Mr. Chappell: The Van Brunt is a patented structure, not open to the public.

The Master: Let him answer.

Mr. Bowman: It was certainly open to the defendant here. The defendant has been making it and had a right to make it.

Q. You may answer the question.

A. They have been sold there, but whether they were copied after anybody I couldn't say.

Q. Do you know of any drill companies that have been selling a device like the Van Brunt, besides the Dowagiac Company, in North Dakota?

Mr. Chappell: Objected to as misleading. The Dowagiac never sold anything like the Van Brunt.

Q. I will withdraw the question. Did you know of any manufacturers selling a device like the Van Brunt in North Dakota, and if so name them.

A. I do not.

RE-DIRECT EXAMINATION.

By Mr. Chappell:

Q. When the detachable heel was introduced in the Kentucky shoe drill was the price increased by you?

A. No, sir.

Q. Was the price that you was obliged to pay Deere & Webber increased on account of that?

A. I think not.

Q. What kind of spring did the Superior shoe drill have for applying pressure to the shoe?

A. A coil spring.

RE-CROSS-EXAMINATION.

By Mr. Bowman.

Q. What kind of a coil spring was it that the Superior used, a small or large one?

A. A small one, that is medium small. There was a flat rod run through the spring.

Q. And when was it that this was used?

A. This was used in about 1890.

By Mr. Chappell.

Q. Do you know whether or not the Superior structure was a patented structure?

A. I do not.

Q. Do you know whether or not the Van Brunt structure was a patented structure?

A. I do not.

By the Master.

Q. What proportion of Kentucky drills did you sell to those of the Peoria and Hoosier drills?

A. I think I only sold about four Hoosier drills all told.

Q. How long did you handle these Peoria and Hoosier drills?

A. I handled the Peoria one year and the Hoosier I think one year, too.

Q. Why did you quit handling those drills?

A. Because I didn't like them.

(The signature of the witness in the presence of the Master and Counsel, to this deposition, is waived.)

JOSEPH D. JENNINGS, after being first duly sworn on behalf of the complainant, deposes as follows in answer to interrogatories by Mr. Chappell.

Q. Please state your name, age, residence, and occupation?

A. J. D. Jennings; residence St. Paul; age 63; occupation, interested in machinery and transfer business in St. Paul, and I travel for the Robinson-Miller Company in the Northwest.

Q. How long have you been interested in the machinery business?

A. Since about 1879, in Minnesota.

Q. Are you familiar with the Dowagiac shoe drill, which has a spring pressure device consisting of a pair of rods connected at their forward ends to the draw-bars, and extending to the rear of the boot where the pressure is applied?

A. To a certain extent I am.

Q. When did you become familiar with that structure?

A. I don't remember what year it was. About the first year it was sold in North Dakota. I was selling drills in North Dakota at that time.

Q. In what capacity were you selling drills, as a salesman or as the proprietor of a business?

A. In the first place as a salesman.

Q. And after that?

A. Afterward as a proprietor.

Q. What was the name of the concern of which you was a proprietor?

A. The Jennings Implement Company. Before that Gangelhoff, Jennings & Co. We handled the Tiger drills at that time. Then afterwards it was the Jennings Implement Company handling the other drills.

Q. Did you sell the Dowagiac drills?

A. No, sir.

Q. What shoe drills did you sell?

A. Sold the Tiger the first and the Kentucky the second.

Q. Explain the kind of spring structure for applying pressure to the shoes, employed on the Tiger.

A. It has a coil spring.

Q. What kind of a spring pressure was there for the shoes on the Kentucky?

A. A flat steel spring.

Q. Who manufactures the Kentucky drill, if you know?

A. At that time Brennan & Co., of Louisville, Kentucky.

Q. What is your acquaintance with Brennan & Company?

A. I was their first general agent here in this country.

Q. State the circumstances of your becoming the first general agent.

A. At that time, that was before they made this drill that is on the market now, they had another drill, and I was handling the Kentucky wagons for Minnesota and North Dakota, and they wanted me to take hold of their goods, and I went down there to the factory. I was down to the wagon works and I went in and saw them, and I told them at that time that that drill they had there might be all right for the southern trade, but it would not work in our trade in this country, and we had considerable talk; I think it was old Mr. Munn that said if I would take hold of their goods up here that he would make any kind of a drill I wanted that would sell. That is, they would change their old drill and make a drill that would work in this country. That is the way I started in.

Q. What drill was discussed or what did you decide upon as to the kind of drill you should have made?

A. I told them I wanted just as near a Dowagiac drill as I could get.

Q. And their response to that was what?

A. They said they would make me a good machine.

Q. How long did you continue to handle the Kentucky drill?

A. I think I handled it about two years, if I recollect right. I don't remember now exactly what time I turned it over to Deere & Webber. I introduced them in the first place. The first machine that they made was a 20 shoe, 5 inches apart, and they completed it down there and then sent it to me at St. Paul by local freight. I set it in my warehouse, and that drill I sold to Schuler, at Wahpeton, North Dakota.

Q. What other kinds of drills were being sold in the territory at that time? That is, this Northwest Territory, Minnesota and the Dakotas?

A. Well, that is shoe drills you mean?

Q. Yes, or any other kind.

A. Well, there was the Superior and the Tiger, and the Van Brunt, and the Buckeye people had one. I don't remember the others. The Monitor people had a shoe drill. They came out with that shortly after.

Q. Why did you select the Dowagiac drill as the model to follow for Brennan & Company?

A. I selected it because it was the best selling machine at that time. Took the best among the dealers and the farmers.

Q. Was it very much better than the others?

A. I can't say that it done any better work, but it seemed to take, and everybody wanted it, and of course we wanted something we could sell.

Q. Have you handled shoe drills since you sold the Kentucky?

A. Yes, sir.

Q. What make were they?

A. Handled the Fountain City and handled the National.

Q. What kind of spring pressure devices did those drills have?

A. Coil springs.

Q. How did the extent of sales compare with the extent of sales of the Kentucky?

A. Kentucky at the time I handled it?

Q. Yes, the Kentucky shoe drill.

A. I didn't handle it long enough so that I could count anything on it. I didn't have it long enough to get it introduced very much. Just got it introduced when it was taken away from me and turned over to Deere & Webber.

Q. What was the extent of your sales of the Fountain City and National drills you have named?

A. Not very big.

Q. At the time you introduced the Kentucky shoe drill to what extent was you familiar with this Northwest Territory?

A. I traveled it when I had to make a good deal of it with a team. Before the railroads.

Q. Did you travel over the whole territory?

A. Nearly all of North Dakota, what was settled.

CROSS-EXAMINATION.

By Mr. Bowman.

Q. Do you know how many Kentucky shoe drills were sold the first or second year?

A. I do not. I can't tell anything about it without looking at my book. I have a record of it at St. Paul. The first drills that we got was the old style Kentucky. I had — I don't remember how many car loads of those, and I had hard work to get them off. Then when the new one came in I started that, but I don't remember how many we sold. I think when we turned them over to Deere & Webber I had about 40 machines on my hands. I am not positive about that even without looking. It is so long ago that I can't remember. I have had so much other business I don't remember those things. I can remember the first machine I sold, because that was I thought quite an undertaking. I can remember where I sold it.

Q. You mean that first machine?

A. Yes.

RE-DIRECT EXAMINATION.

By Mr. Chappell:

Q. What territory did you sell the Fountain City and the National drills in?

A. I handled the National drill for Minnesota and North Dakota, and the Fountain City I handled in all of North Dakota and in the northern part of Minnesota. Part of Minnesota someone else worked. They worked the other part from the factory at LaCrosse.

Q. Did those drills have a sale in the region where the soil is what is known as a gumbo soil?

A. I don't remember of ever putting them into that territory where the gumbo soil is.

Q. State briefly what gumbo soil is.

A. Well, it is hard to explain what it is. It is thick and very hard; packs down hard. It is like a muck only it is more of a clay substance, and it will pack down very hard and you have got to have more pressure on the shoe to get through that than you have in ordinary ground.

Q. In the event of wet weather what is the condition of gumbo soil?

A. Well, the shoe is more liable to clog up unless it is made

just right. The McSherry shoe they had here several years ago, they had to take them all back, the McSherry people.

RE-CROSS EXAMINATION.

By Mr. Bowman.

Q. Was the McSherry at that time using the flat spring pressure device?

A. I don't remember. I never handled them, I know I met their representative once out on the road, and he was having trouble.

Q. Do you remember what year that was that they had to take their shoes back?

A. I don't remember. There was one season here that we had an awful wet season; the water was on the ground and bothered them that way. I don't remember. It seems to me that was in 1893. 1892 or 1893, I think. I don't remember. I am not positive about that.

The further taking of testimony in this matter was here adjourned until Wednesday, December 14th, 1904, at ten o'clock A. M.

Wednesday, December 14th, 1904 ten o'clock A. M.
Met pursuant to adjournment, present as before.

S. C. SWAYNE, after being first duly sworn on behalf of the Complainant, deposes as follows in answer to interrogatories by Mr. Chappell.

Q. Please state your name, age, residence, and occupation?

A. S. C. Swayne; age 47; residence Minneapolis, at the present time; general agent for the Dowagiac Manufacturing Company.

Q. Over what territory does your agency now extend, and for how long a time have you been agent for the Dowagiac Manufacturing Co.?

A. My present territory is from Madison, Wisconsin, to the coast, but prior to the 17th of last month my territory was Fargo. What we termed our Fargo territory. That was North Dakota, Northwestern Minnesota, and western Canada.

Q. For how long a time had that been your territory?

A. Since 1896.

Q. What opportunities have you had for knowing the grain drill business in that territory?

A. By being engaged in the grain drill business exclusively, and traveling over that territory.

Q. To what extent did you travel over the territory?

A. I made the territory in the fall on contracting work, and in the spring on settlement work, and part of the time I would go out during the seeding season when they were working.

Q. I suppose that there is only one kind of a shoe drill known as a Dowagiac shoe drill?

A. I don't know of but one kind.

Q. State the arrangement of the springs in connection with the shoe in that structure briefly so that we can be sure of the grain drill you are identifying.

A. The pressure device is two long springs, two round springs, fastened to the upper part of the draw-bar, connected with the shoe, and the leverage is in the rear of the drill at the other end of the spring.

Q. Are you familiar with the Kentucky shoe drill?

A. Yes.

Q. State the kind of a spring pressure device in connection with the shoe on that drill, so that we can be sure of the drill you are identifying.

A. The pressure device is the same with the exception that instead of two round springs there is one flat one.

Q. State in a general way to what extent the Kentucky shoe drill has been in competition with the Dowagiac shoe drill in your territory, and after stating the matter in a general way, kindly give any specific instances.

A. It came in competition in a general way by being introduced and sold as embodying the same principles of pressure that the Dowagiac had. In fact it was the same kind of a drill. It came in competition first by being sold to competitive dealers. That is, dealers who were in the same towns with the dealers who were handling the Dowagiac drill.

Then being sold to dealers who prior to that time had handled the Dowagiac drill exclusively. The specific instances where it came in direct competition was at Mayville, North Dakota, Carrington, North Dakota, Fessenden, North Dakota, Hillsboro, North Dakota, Reynolds, North Dakota, Castleton, North Dakota, Fargo, North Dakota, Jamestown, North Dakota. Those are the principal points.

Q. How extensively does this competition cover your territory?

A. It covers all of it.

Q. State the effect of this competition on the sales of Dowagiac drills so far as you are familiar with them.

A. It tended to reduce our sales from one third to one half.

Q. How would this be brought to your attention? State the circumstances.

A. By the dealers. Our own dealers.

Mr. Bowman: I object to that on the ground that it is simply hearsay, being his own dealers.

Q. In what way would your dealers bring the matter to your attention?

A. By claiming that the Kentucky structure was sold cheaper than the Dowagiac.

Mr. Bowman: I object to that as secondary, hearsay, and immaterial evidence.

The Master: Let him answer.

Mr. Bowman: Note an exception.

Q. Would the matter be brought up in considering the quantity of drills that were ordered?

Mr. Bowman: I object to that as leading.

The Master: I think the objection to that should be sustained. You can ask him what he was informed about it, but I don't think it is competent for him to give the conversation he had with the dealers.

Q. Question withdrawn. Please state specifically what the dealers would say to you in reference to the Kentucky structure when you were negotiating with them?

Mr. Bowman: That is objected to as calling for hearsay.

The Master: I don't think it is competent, Mr. Chappell, for him to repeat here a conversation that he had with the dealers out of the presence of the defendants or their agents. He can state anything of his own knowledge as to the cause of this competition, or the effect that it had upon sales, but I don't think it is competent to give the conversation between the witness and the dealers.

Mr. Chappell: Well, in reply to that I would say that in negotiations for the sale of any article matters come up for consideration that are discussed with the party to whom the sale is made, and it seems to me to be entirely proper to show what they presented and urged as their reasons for certain things, and that that becomes a part of the res gestae, so to speak, showing what the general agent had to contend with when he went into the field. It may not be competent to prove any specific instances, but it enters into the matter of description, like testimony as to the reputation of an individual, and I submit that it ought to be received for what it is worth in the matter. It may not be evidence that should be conclusively accepted as proving that the customer was sincere in what he said, or anything of that kind, but the fact that he had the Kentucky drills under discussion shows the competition, and I don't know but what it would be proper for the witness to state what conversations occurred in the negotiation of his business, so far as the Kentucky drills were concerned.

The Master: I think he can state what his experience was in regard to the Kentucky drills, and what competition he met, but I can not see how anything that was said by any dealer or prospective purchaser could affect the rights of the defendant. He can testify as to what competition he met, and what experiences he met, but I don't see how the defendants can be bound or affected by any statement made by some third party.

Mr. Chappell: Well, it does not appeal to me that that is the exact ground for admitting the matter, but it is the experience and what the general agent encountered in the field, to show what he had to contend with and argue against in the conduct of his business.

The Master: He can state that, but without repeating the conversation.

Q. The question is withdrawn. Please state your experiences in the selling of Dowagiac drills, so far as the Kentucky competition was concerned.

A. In taking orders, making contracts, and taking orders, I could not obtain as large orders as I had in former years from the dealers, who claimed that an imitation of the Dowagiac was being sold for less money than they could afford to sell the Dowagiac, and in instances where the same dealers were selling both drills they would tell me that they had bought, or were going to buy the Kentucky drill, because it was practically the same structure as the Dowagiac, and they could buy it for less money. This was the case at Hillsboro, at Mayville, and at Castleton. These are specific points that I can recall.

Q. Kindly give the names of the agents there.

A. John E. Paulson, at Hillsboro, Elken Brothers, at Mayville, Frank Lynch, at Castleton.

Q. Which of these customers also were handling the Kentucky shoe drill?

A. They went to handling the Kentucky shoe drill possibly in 1898. They handled Dowagiac drills exclusively prior to that time.

Q. Did they still continue after 1898 to handle Dowagiacs?

A. They handled Dowagiacs, but not exclusively. They handled the Kentucky.

Q. Indicate some other instances in which competitors were handling the Kentucky drills that seemed to affect the extent of your sales, rather than the agents of the Dowagiac Company?

A. At Fergus Falls, Minnesota, Carrington, North Dakota, Fessenden, North Dakota, Harvey, North Dakota, Reynolds, North Dakota, and Grand Forks, North Dakota.

Q. Kindly give the names of the Dowagiac agents at those places, and also the agents handling the Kentucky drill?

A. J. D. Faxon at Carrington was the Dowagiac agent, and James Doughty was the Kentucky agent; at Harvey A. J. Sayer was the Dowagiac agent, and Scholtz I think was the Kentucky. I am not positive about that, but I think it was Scholtz that was the Kentucky agent. Beisecker was the agent at Fessenden, the Dowagiac agent, and Regan & Doughty were the Kentucky agents. At Grand Forks, Stephen Collins was the Dowagiac agent, and Collins & Stinson were the Kentucky agents.

Mr. Bowman: The other is Collins too?

A. Yes. The other is another Collins. Collins & Stinson.

Q. What other shoe drills were prominent as competition in this territory of yours with which you are particularly familiar?

A. The Van Brunt and the McSherry were the principal competitors outside of the Kentucky.

Q. Was the Monitor drill prominent?

Mr. Bowman: That is a little leading.

A. It never affected us very much that I could see, the shoe drill.

Q. State whether or not the Van Brunt and the Monitor drills were patented drills, if you know?

Mr. Bowman: I object to that as calling for hearsay evidence, I presume. What do you mean by "if he knows"? If he personally knows?

Mr. Chappell: Yes.

Mr. Bowman: By an examination and comparison of patents?

Mr. Chappell: Oh, I don't care how he knows.

The Master: Let it come in for what it is worth. I don't think myself that perhaps the witness is technically qualified to testify.

A. The Van Brunt has a patented construction for tilting the drill.

Mr. Bowman: For what?

A. For tilting the drill. That is raising or lowering it. I don't know that there is any patent on the Monitor.

Q. You are not informed on that?

A. Not informed on that.

Q. Please indicate the character of the principal wheat growing soil in your territory?

A. It is what they call gumbo soil. A very sticky soil when wet, and inclined to be very hard when it is dry.

Q. What sort of spring pressure had the Van Brunt and the Monitor drills?

A. Coil springs.

Q. Were they competitors in these gumbo fields?

A. Yes, to a certain extent.

Q. How did the price of the Van Brunt and the Monitor compare with the price of the Dowagiac, if you know?

A. They were retailed at less money. $10 or $15 less.

Q. On what size machine?

A. On the twenties and twenty-twos. That is practically the only sizes we use in that country.

Q. How, in your judgment, did the number of sales of the coil spring structures compare with the number of sales of Dowagiacs and Kentuckys and McSherrys with which you are familiar?

Mr. Bowman: I object to that as calling for a broad conclusion of the witness.

The Master: If he knows let him state.

A. Oh, I should say about 15 to 20 per cent of the shoe drills used in that territory would be coil springs.

Q. Any hoe drills used in that territory?

A. I sold one hoe drill. That is the only one I ever sold or have ever seen in that territory.

CROSS-EXAMINATION.

By Mr. Bowman.

Q. Mr. Swayne, to what extent is the sowing in that country in hard ground as compared with wet or soft ground?

A. I should say in the proportion of about 1 to 20.

Q. That is to say there would be one instance of sowing in hard ground compared to 20 in wet or soft?

A. Yes, for the reason that the ground is always wet there in the spring, and it is always soft, practically always.

Q. Has that been the case since you have known the territory?

A. Yes, sir.

Q. When you first became connected with the Dowagiac Company was it their custom to contract with dealers by giving them large discounts, and selling in car load lots and agreeing to take back or carry them on drills unsold at the end of the year?

A. No.

Q. When did they inaugurate such contracts?

A. I have never seen one of them.

Q. What is the custom that you are familiar with as to their contracts?

Mr. Chappell: Counsel for complainant objects to the statement of fact by defendants' counsel, as not proper evidence in the case, and by way of caution, not to appear to accede to such statement as being statements of fact.

Mr. Bowman: Defendants' counsel accepts the suggestion and caution.

(The last question was read.)

Q. That is discounts, etc.?

A. I am very familiar with the discounts and terms.

(The question was again read to the witness.)

A. We give a discount for cash June 1st.

Q. Do you not give a discount of as much as 25 off the list, and then in addition 10 off for cash within a certain time, and some other discount for cash at a different time?

A. No.

Q. What are the facts as to your discounts?

A. We give 10 per cent discount for cash June 1st; we give 5 per cent discount for cash November 1st, or 5 and 10 for cash June 1st, on the list price of drills.

Q. Isn't there a discount off the list of 25, 30, or 35 per cent?

A. 5 and 10 per cent for cash June 1st.

Q. Did the Dowagiac Company ever produce contracts which referred to discounts of 25 and 30 off the list? Have you any such contracts as that in your territory, or have they been in force in your territory?

A. A few years ago we had a contract which provided for the retail price of the drills; the price at which the agents were to sell them to the farmers; from that contract we allowed 25, 5 and 10 for cash June 1st.

Q. What years did that relate to?

A. I think I used those in 1896. I think they were used in 1896 and 1897.

Q. What as to freights; were your goods f. o. b. Minneapolis or where?

A. f. o. b. Dowagiac.

Q. The dealer paid all freight from Dowagiac?

A. He paid the freight, and they allowed him a credit for the freight on car load lots to Fargo. That was when we gave

the 25 per cent discount, when the drills were billed to him at list price. What we call the retail price.

Q. And did you not also have an agreement that in the event that he had drills unsold at the end of the year, that the Dowagiac Company would carry his account without interest to the extent of those unsold drills?

A. If he handled no other makes of drills or seeders, we would take a note payable the next year, according to the terms of his contract, whatever that was, with interest and discount conditions extended one year.

Mr. Chappell: Complainant's counsel submits that this evidence is certainly secondary. The contracts would show for themselves. He has no objection to the witness stating his recollection, but submits that the contracts themselves are the best evidence.

The Master: I think the contracts are the best evidence of the terms, but I think it is permissible for him to ascertain what the witness knows about those statements of the contracts. As to the fact of course the contract itself will show.

Q. How long have the Dowagiac Company been making the interchangeable shoe and single disc drill?

A. Two years — you mean by "interchangeable" so that the drill can be changed —

Q. To a shoe or a disc.

A. We have always been able to change any structures that we had from a shoe to a disc.

Q. (Showing witness pamphlet.) I hand you a catalog which purports to be that of the Dowagiac Company, and ask you if you identify it as such?

A. It looks very much like a Dowagiac Catalog, sir.

Q. Will you refer to the part that is known as the feed or distributer of the shoe drill?

A. I don't remember of referring to it.

Q. The question was, can you?

A. To the feed?

Q. Yes.

A. Yes, here it is.

Q. Just mark on page 12 the part that is known as the feed or distributor?

Mr. Bowman: The witness marks it with a lead pencil line.

Q. What kind of a distributor or feed has your company been using on shoe drills?

A. Here it is.

Mr. Bowman: The witness states it is on page 25.

Q. What general description do you give it?
A. Horizontal feed.

Mr. Chappell: This is objected to as not proper cross-examination, the matter not having been gone into on the direct.
Mr. Bowman: I expect to connect it. It refers to a part of the shoe drill. He asked him to explain about the spring pressure, and I want to know whether he knows about it.

A. I didn't catch the question.

The Master: The objection will be over-ruled.
Mr. Chappell: Note an exception.

Q. Is this not a part of the drill that you had some trouble with in use, with the dealer or the farmer?

Mr. Chappell: The same objection.
The Master: The objection is over-ruled.
Mr. Chappell: Note an exception.

A. We never had any trouble with that feed.
Q. Do you regard it as a perfect feed then?
A. I do.
Q. Do you so represent it to the customer?
A. Yes, sir, without hesitation.
Q. Did you ever know of the feed used by the Superior Drill Company, and whether that gave trouble in your territory?
A. The feed used by the Superior Drill Company would not work in that territory.
Q. And it is an essential part of a drill that the feed should be a good one and one that will work, is it not?
A. Yes, sir.
Q. How long have you known that Superior Shoe Drill?
A. I never heard of a Superior shoe drill.
Q. How long have you known of the Superior drill; what ones have you known of?
A. I have known of the Superior double disc drill for five or six years.
Q. The question was what ones; whether that was the only one?
A. Yes, that was the only one.
Q. What jobbers or manufacturing companies here in Minnesota handle wheat drills that go into your territory or have gone into your territory during the period from 1896?
A. Deere & Webber, Dean & Co., the Minnesota Moline

Plow Co., and Smith & Zimmer are the only jobbers that I can recall at the present time.

Q. You referred in your direct examination to the Van Brunt drill; in what respect does the Dowagiac closed delivery single disc drill, as it has been sold the last year or two, compare with or differ from the Van Brunt in the disc furrow, in a general way?

Mr. Chappell: I object to that as immaterial and not proper cross-examination.

The Master: I will let this all come in for the reason that I can not judge at the present time as to its materiality, and will hear the whole of it before I exclude it.

A. The furrow opener proper, the disc, is practically the same on all drills.

Q. And this representation of the Kentucky closed delivery single disc furrow opener, is a fair representation of the most of the ones that are being sold? I refer to page 4 of the Kentucky catalog marked for identification, "Defendants' Exhibit Kentucky Drill Company Catalog."

A. The discs on the Kentucky are the same, practically the same as all the others.

Q. Well, what is the difference in this representation before you of a closed delivery disc furrow opener, with boot and drag-bar attachment, and the one sold by the Dowagiac Company?

A. The one sold by the Dowagiac Company the draw-bar is round. That is flat.

Mr. Bowman: Let it appear that the witness referred to the cut.

Q. Do you understand that that is a patented structure by the Dowagiac Company excepting as to the drag-bars, or by any other company?

A. I do not know anything about it.

Q. You never heard your company claim to have a patent on it?

A. Not one of the company, no.

Q. Why did your company in the last few years quote a special price on shoes?

A. I never heard of it.

Q. Do you not know that at one time —

Mr. Chappell: I wish my objection as to the statement of fact by counsel to apply.

Q. Do you not know that at one time your company quoted a special price of 50 cents for a shoe?

A. I never heard of a special price on a shoe.

Mr. Bowman: Defendants' counsel requests the Dowagiac Company catalog to be marked for identification "Defendants' Exhibit Dowagiac Company catalog, Minneapolis, December 14th, 1904."

Q. What instances can you give where the Van Brunt device was sold for ten or fifteen dollars less than the Dowagiac drill?

A. At Fargo.

Q. Give the name and date as far as you can?

A. I could not give the name and date. I took it from the chattel mortgage record of Cass County, and also from the statement that the party would make who had bought the Van Brunt drill.

Q. And you can't remember the name of the party?

A. No, there were so many of them. Several of them. I could not remember them?

Q. Can you not remember any one of them?

A. L. W. Huntoon, a banker at Moorhead was one of them.

Q. At Fargo?

A. Moorhead, just across the river from Fargo. He bought the drill in Fargo.

Q. Did he give a chattel mortgage?

A. No, sir.

Q. How did you know?

A. He told me so.

Mr. Bowman: I object to that as not evidence on that point. As hearsay.

The Master: Well, I think you brought that out. You asked him how he knew it, and he had to tell you. The only way.

Mr. Bowman: He referred to instances where he knew it, and I brought out how he knew it, and he gives me the name of one and admits that it is hearsay. Counsel renews the objection to the testimony as to the Van Brunt cutting the price, as being hearsay.

The Master: Well, I will sustain the objection as to this particular machine where the information was derived from the statement of Huntoon, but the ruling will not apply to the machines where the price was disclosed by the chattel mortgages, but let the ruling as to those be reserved and we will see what we find out about it.

Q. How many machines were described in the chattel mortgage that you referred to?

A. One and two. One in some of them, two in some of them.

Q. In what way were they described?

A. Described as a Van Brunt 20 shoe or 22 shoe, bought at a certain date.

Q. Were they the only devices that were included in the chattel mortgage?

A. Yes. If I remember correctly there was nothing but a chattel mortgage given on the drill. There was no other property described in the chattel mortgage. No other security.

Q. Did the chattel mortgage state that no cash had been paid?

A. No, sir.

Q. To whom was the chattel mortgage given?

A. Given to the Fargo Transfer & Storage Company, if I remember the name correctly. It was what we termed in Fargo the Fargo Storage people.

Q. You do not remember the year when you saw this chattel mortgage?

A. Oh, it was along for three years; possibly in 1899, 1900, 1901, and 1902, different years that I have seen them. Noticed the records.

Q. How many chattel mortgages do you think you looked at?

A. You mean records? Looking over the records?

Q. The records or chattel mortgages themselves.

A. Probably 3,000 during that time.

Q. All Van Brunts?

A. No. It would be the record —

Q. Or the Fargo Transfer Company?

A. No, it would be the chattel mortgage record for Cass County, North Dakota; all the mortgages that were filed at all times in that county.

Q. Do you remember how many chattel mortgages or copies of chattel mortgages on the records which you examined had been given to the Fargo Transfer Company or the Van Brunt Company?

A. I could not remember.

RE-DIRECT EXAMINATION.

By Mr. Chappell.

Q. Do you recollect the kind of feed or distributor on the Kentucky shoe drill?

A. Yes.

Q. How did it compare with the one on the Dowagiac shoe drill?

A. It is identical with the Dowagiac shoe drill made up to 1895.

Q. How was it before that date?

A. I do not know.

Q. Do you know what the price of a shoe is for the Dowagiac drill as a repair?

A. Yes, sir.

Q. What is it?

A. 50 cents.

Q. How long has that been the price, if you know?

A. Well, since about 1897 or 1898. I can't remember just the time.

Q. For how long a time has the shoe and disc been made interchangeable on the Dowagiac drill?

Mr. Bowman: That is objected to on the ground that he has already stated the time.

The Master: My recollection is he said that they always had been interchangeable, but it won't hurt for him to answer that particular question again.

Q. When was the disc introduced, comparing it with the date of the shoe?

A. I think we had our first disc in 1898. I am not positive about that date.

RE-CROSS-EXAMINATION.

By Mr. Bowman.

Q. Was not the price of fifty cents for a shoe made by the Dowagiac Company to meet the competition of the Kentucky on their detachable heel?

A. I do not know what the intentions were of the Dowagiac Manufacturing Company. The price was fifty cents for our shoe.

Q. You have said that the feed of the Kentucky and the Dowagiac are identically the same?

A. They were.

Q. That was in 1897?

A. The 1895 feed that we discarded in 1895 is identical with the Kentucky feed.

Q. (Showing witness catalog.) I call your attention to page 8 of the Kentucky catalog, which refers to a notched washer, and ask you if you mean to say that the Dowagiac Company had that construction in 1895?

A. I don't know as it was exactly that construction as to the washer. I never saw that notched washer on a Kentucky drill until possibly 1898 or 1899.

Q. Then I understand you do not contend that the Dowagiac Company had that notched washer on its feed in 1895?

A. We have had a notched washer since I have been in the employ of the Dowagiac Company. That is what we call the take-up washer.

Q. You discarded that then for what you now advertise as the spring shown in your Dowagiac Company catalog at page 25?

A. Yes.

Q. Do you regard this spring as an improvement over the notched washer?

A. Yes.

Q. And you have not used a notched washer since that year?

A. If I remember correctly it was taken off the regular Dowagiac constructions about 1895 or 1896.

Q. Please describe the location and shape of that notched washer that the Dowagiac Company used in 1895.

A. Well, it is a ring with notches in it of different depths.

Q. That is the notches were of different depths?

A. Yes.

Q. And by turning the ring the adjustment would be made?

A. Yes. This Coulter pin held the feed up close together, and as it would wear we put it in a notch that was not as deep as it was before.

Q. Do you obtain any such adjustment with your spring?

A. Yes, sir.

Q. In what way?

A. The spring keeps it perfectly tight all the time; takes up all the wear.

Q. My question was how do you adjust or change the adjustment being once in use?

A. We don't have to touch it. It adjusts itself.

Q. Is it not true that you now sell the single disc closed delivery drill to dealers who formerly purchased the shoe drill?

Mr. Chappell: Objected to as immaterial.

The Master: Let it go in for the present. I don't see the materiality of it.

Mr. Chappell: Note an exception.

A. We possibly sell a few of them.

Q. Do you mean to say that your shoe drill is as salable as it ever was?

A. Where the shoe drill trade is, yes.

Q. And that trade is where?

A. Many parts of the northwest.

Q. And that would be covered by the places you have specifically mentioned in your direct examination?

A. Not the entire Northwest would be covered.

Q. Well, you don't pretend to be familiar now with the entire northwest trade, do you?

A. I am not familiar with Minnesota, but I am familiar with the trade in North Dakota and northwestern Minnesota.

Q. Then as to North Dakota and the places that you have testified to in your direct examination, do you wish the Master and the Court to understand that there has been no change in the salability of the shoe drill?

A. The last year there was possibly one third to one half of what was formerly shoe drill trade went to the double disc trade.

Q. How as to single disc open and closed delivery?

A. There was not a great deal of single disc trade the past few years.

RE-DIRECT EXAMINATION.

By Mr. Chappell.

Q. Do you know of any instance where the peculiar kind of feed on the Dowagiac shoe drill was the consideration which caused the farmer to buy the drill, as distinguished from other features of the drill?

Mr. Bowman: Objected to as calling for hearsay and opinion; a mere conclusion of the witness.

The Master: Well, let him state what he knows about it and we will see whether it is hearsay.

A. The feed was one of the leading features on the Dowagiac drill in the northwestern part of North Dakota, what they call the dry belt or flax belt, as the feed would sow flax perfectly, flax being a very difficult seed to sow. The Dowagiac feed was considered to be a perfect flax feed or distributor.

Q. This adjustable washer on the Kentucky, was that effective in the sowing of flax seed?

A. When we were using the same feed or a similar feed we didn't consider it so.

Q. They were sold in that territory where they sow flax seed, were they not?

A. Yes.

The further taking of testimony in this matter was here adjourned until two o'clock P. M.

Wednesday, December 14, 1904, 2 o'clock P. M.

Met pursuant to adjournment, present as before.

C. C. WEBBER, after being first duly sworn, deposes as follows in answer to interrogatories propounded by Mr. Chappell.

Q. State your name, age, residence and occupation?

A. C. C. Webber; Secretary and Treasurer of the Deere & Webber Company; age 45; residence, Minneapolis, Minnesota.

Q. What is the business of the Deere & Webber Company?

A. Jobbers of farm machinery and vehicles.

Q. How long have you been a resident of Minneapolis?

A. Since 1881.

Q. And you have been connected with the Deere & Webber Company all that time?

A. The Deere & Webber Company and its predecessor, Deere & Co., it was when I first came up here, or shortly after that time. It was Deere & Company.

Q. What are your duties in connection with that company?

A. Well, I am the Secretary and Treasurer, and in connection with Mr. Velie, who is the Vice-president, we are the managers, I presume.

Q. Is it any part of your duty to travel over the territory, or to visit different parts of your territory from time to time?

A. Why, I do occasionally. I make no regular practise of it. I go out sometimes.

Q. Enough to be familiar with the territory?

A. Oh, to some extent. Some years ago when I first came up here I traveled a good deal, but I have not traveled much of late years.

Q. Your company handles grain drills?

A. Yes, sir.

Q. What make of grain drills?

A. The Kentucky.

Q. How long have you handled the Kentucky grain drill?

A. Since 1894, commencing with that year; made the contract in the fall of 1893, I believe.

Q. Did you have anything to do with making the contract?

A. Yes, sir.

Q. What kind of a grain drill is the Kentucky? Describe the spring pressure device, and whether it is a shoe or a hoe?

A. Well, they make both a shoe drill and a disc drill. The shoe drill is now made with a coiled spring, the 1904.

Previous to that time it was made with a long flat spring.

Q. When did the Kentucky disc drill come on the market?

A. Well, I can answer that more correctly if I refer to my records. I can give you the time exactly if you want it.

Q. Well, do you remember the year? No objection to your referring to your records and refreshing your recollection.

A. I can give it to you exactly if you desire me to.

Q. No objection whatever to your referring to your records and refreshing your recollection.

A. (Referring to book.) We had a few Kentucky disc drills, but very few of them, in 1898, the first we ever received.

Q. When did the Kentucky disc drill become of importance with you?

A. It commenced to be of importance to us in 1900.

Q. Is that structure a patented structure, or don't you know?

A. The disc drill?

Q. Yes.

A. I don't know anything about that.

Q. What sort of a drill did you handle before you began with the Kentucky shoe drill in 1894?

A. The concern previous to that time had been Deere & Company; it was changed to the Deere & Webber Company in the fall of 1893, and Deere & Company sold the Superior Shoe Drill.

Q. What sort of construction was that?

A. That was what you would call a coil spring drill.

Q. State the circumstances under which you took up the Kentucky shoe drill; did Brennan & Co. approach you, or did you approach them? State the circumstances of the contract or of the entering into the contract.

A. You mean about that particular contract only?

Q. Yes, at the beginning.

A. Why, we wrote to Brennan & Co. at the same time we wrote to various other people, about a shoe drill for this territory up here, and we had one or two letters from them, and their representative called here some time in the fall or early winter of 1893, and made a contract with us, I presume as a result of the correspondence we had with them. I think I had also seen the drill at the Exposition in Chicago some time in 1893.

Q. With what other companies did you correspond at that time?

A. We corresponded with the Superior, the Van

Brunt, the Hoosier, the Dowagiac and with others, but those are the four principal ones I believe, four or five.

Q. Why did you select the Kentucky?

A. We selected the Kentucky because we had failed to be able to get the Superior, the Van Brunt, the Hoosier, or the Dowagiac.

Q. The Kentucky was the last one you tried; is that right?

A. I don't know but what we sent the letters to them at the same time we sent them to others, but we didn't contract with them until it was learned that we couldn't get any of the others.

Q. Why would you have given the others the preference?

A. Mainly I presume because they had a trade established up here, and the Kentucky practically had none. We had to work it all up.

Q. Which drill had the best trade established?

A. Well, that would be impossible for me to guess at that time. I couldn't say. We knew what we had been doing with the Superior. We didn't know what the other fellows had been doing, and it would be largely guesswork. It would not be anything more than an estimate.

Q. The Superior was a patented structure, was it not?

A. Well, I don't know that, Mr. Chappell.

Q. The Van Brunt was a patented structure, was it not?

A. I don't know.

Q. The Dowagiac that you corresponded about is the same structure as the present Dowagiac shoe drill?

A. I presume so, I am not familiar with the various changes that they have made. I presume it is practically the same.

Q. Was the Hoosier structure like their present structure?

A. I couldn't say about that. I don't know.

Q. Can you produce some of the circulars, duplicates of them, that you sent out from time to time of the Kentucky shoe drills?

A. Yes, sir. At your request we have gathered together a lot of those circulars and will produce them if you want them.

Q. If you will kindly produce them.

(The witness here produces several papers.)

Mr. Chappell: It is understood that these exhibits are produced to be marked in this case, the same to be retained by the Deere & Webber Co., open at any time to the inspection of the complainant and Master, or com-

plainant's counsel, and to be produced in Court at the hearing.

(The newspaper advertising matter produced by the witness was marked by the Master, " Complainant's Exhibits Deere & Webber Newspaper Advertisements," and numbered from 1 to 11, inclusive. The circulars produced by the witness were marked by the Master " Complainant's Exhibits Deere & Webber circulars," and numbered from 1 to 14 inclusive.)

The Witness: (Producing books.) Here are some memorandum books that we publish every year called a " Farmers Pocket Companion." We have always published that every year, somewhere from fifty to seventy-five thousand a year. Those are the only three I can find.

(The books last referred to by the witness were marked by the Master, " Complainant's Exhibits Deere & Webber Pocket Companion," and numbered 1, 2, and 3.)

The Witness: Here are the Deere & Webber General Catalogs, A, B, and C.

(The Catalogs referred to by the witness were marked by the Master, " Complainant's Exhibits Deere & Webber Catalogs, A, B, and C.)

The Witness: Now, here is a paper that we publish ourselves, and that we have always published, four times a year, called, " The Furrow," and have advertised the drill in it more or less, but I sent for the files of the old paper and have been unable to get them, as explained by that letter attached. This was published by Deere & Co. at Moline. I suppose you don't care for these letter heads, where it mentions the Kentucky drill do you? (handing letter heads to complainant's counsel).

Mr. Chappell: You might just mention that you advertised somewhat on your letter head.

The Witness: We also advertised some on our letter heads.

Q. Now will you please produce your advertisements of the Dexter and of the Dakota drills.

A. (Producing paper.) Here is the Dexter here.

(The paper produced by the witness was marked by the Master, " Complainant's Exhibit Deere & Webber Dexter Drill advertisement.")

The Witness: The Dakota is described in one of these catalogs. The Dakota and the Dexter will also be found in our general catalogs. Here are the circulars, Mr. Chappell, sent of the 1904 coil spring drill.

(The last papers produced by the witness were marked by the Master, "Complainant's Exhibits Kentucky 1904 Coil Spring Drill," and numbered 1 and 2.)

Q. Please state which was the earlier of these advertisements which you have produced?

A. I think catalog A; our general catalog A is the first one.

Q. Which was introduced first, the Dexter shoe drill or the Dakota shoe drill?

A. The Dakota.

Q. State the circumstances under which the Dakota shoe drill was introduced?

A. According to my best recollection the Dakota Shoe Drill was made to give us a drill that we could compete with the Michigan drill with.

Q. Mr. Munn in his testimony has stated that the Dakota drill and the Dexter drill were made on demand by Deere & Webber, and that he personally didn't know the reason for the introduction of the drills; how long after the Michigan drill had been in the market was it that the Dakota was made?

A. I could not answer that.

Q. Please refer to your catalog marked "General Catalog B," where the Dakota drill is advertised, and indicate the year in which that catalog was issued, if you are able, and also kindly describe the spring structure of the Dakota drill?

A. (Referring to catalog.) Well, it would appear that Catalog B is dated June, 1898, and the Dakota drill had a flat spring.

Q. Do you remember how it was arranged to apply the pressure?

A. No. I can't remember anything particular about the construction of it.

Q. Was it in general like the Kentucky?

A. I think it was in a general way. May have been some differences.

Q. Do you know where one of those Dakota drills might be seen?

A. I don't believe we have any of them now. I presume one could be located with a farmer some place, if we hunted for it.

Q. Can you give the name of a farmer near here who has one?

A. No, I could not now.

Q. To what extent were those Dakota drills sold?

A. Why, we never bought a great many of them. I

have a record here I think of the number that we purchased of them from Brennan & Co.

Q. Kindly indicate what number you purchased, and the sizes and the dates of the purchase?

A. (Referring to memorandum.) We received in 1898, 81 of them; we received in 1899, 92 of them, a total of 173. I want it understood in this connection that I am taking the files that were made up by our stock clerk here for this. Of course I have not hunted them up myself.

Q. When was the Dexter drill introduced?

A. We first received the Dexter drills in 1900.

Q. What was the reason for introducing the Dexter?

A. The reason for introducing the Dexter was to have a cheaper drill. Now, Mr. Chappell, I can only state further than this by recollection; do you want me to do it?

Q. Yes.

A. My recollection is that we would have been glad to have the company continue to make the Dakota, but according to my recollection they claimed that they cost them so much money that they could not afford to make the price as low as we wanted it, and at our solicitation, to have a cheaper drill, they made the Dexter.

Q. Please indicate the number of Dexters that were purchased by you?

A. We received in 1900, 250 of them; in 1901, 29 of them; in 1904, 12 of them, a total of 291.

Q. Any of those on hand now that you know of?

A. I think we have a few on hand. I know there is one on the sample floor there.

Q. During the construction of the shoe drill appearing in the exhibit, "The Kentucky, 1904, Coil Spring Drill," how many of those have been purchased from Brennan & Co.?

A. Well, Mr. Chappell, I will have to state that a good many of the 1904 shoe drills that we sold were drills that we had on hand at the end of the 1903 season, and they were overhauled by the factory and made into coil spring drills. My record here is not very complete on that, but there is somewhere from 250 to 275 of them that were received and changed over.

Q. That constitutes the number of 1904 shoe structures that you have received from Brennan & Co.?

A. Yes sir, received and changed over.

Q. Have they supplied you with any new structures with this coil spring device that appears in this circular?

A. You mean aside from those we had changed over?

Q. Yes.

A. Yes, part of them were new.

Q. What proportion should you say?

A. 25 he has got down here. The others were changed over.

Q. Any considerable number of those on hand now?

A. I haven't any record of that. I think not.

Q. How did the price of the Dexter drill compare with the price of the Kentucky shoe drill sold at the same time?

A. We bought the Dexter for less money.

Q. About how much less?

A. Well, now I have got to dig up our contracts, if you want me to.

Q. I would like to know.

A. 1900 was when we got the Dexter. (Referring to memorandum). Well, shall I give you the prices of both in accordance with our contract for 1900?

Q. Yes.

A. 16 shoe Kentucky drill, $55.01; 20 shoe Kentucky, $67.18; 22 shoe Kentucky, $73.00; 16 shoe Dexter, $50.00; 20 shoe Dexter, $62.00; 22 shoe Dexter, $68.00. That record of the Dexter I made from a memorandum pinned to the contract. The price was not inserted in the original contract. I presume the memorandum is correct.

Q. How did the price of the Dakotas compare with the Kentucky shoe drill?

A. Now, what year was that in, and I will dig that up?

Q. Began in 1898 you say.

A. (Referring to memorandum.) I haven't any memorandum of that 1898 price. I can look it up and supply it to the Master if you want me to.

Q. Look at 1899 too?

A. I can give it to you for 1899.

Q. 1899 is all right.

A. You want the price on both of them, Mr. Chappell?

Q. If you please.

A. 16 shoe Kentucky,— this is our 1899 contract — $47.84; 20 shoe Kentucky, $58.42; 16 shoe Dakota, $42.00; 20 shoe Dakota, $51.50.

Q. Kindly indicate the retail price of these different makes of drills for the different years, so far as you know.

Mr. Hull: The Deere & Webber prices?

Q. No, to the farmers.

A. I have no information on that that would be accurate. I am not competent to give that information.

Q. Did you not in your general advertising print prices that you considered fair prices to retail at, and

in that way establish a maximum price that the dealer could not go beyond?

A. No. Those retail prices really don't indicate anything at all.

Q. For instance, I notice in Deere & Webber's General Catalog B, an advertisement of the Dakota Grain Drill price list, page 252; what was the purpose of printing such a list as that?

A. Well, there are list prices opposite all the goods in that catalog, but it is more of a custom than anything else. They were very often made up by the man that got out the catalog. By the factory. Their list. We would ordinarily take that list. Some of the goods in that catalog might be subject to a discount of 25 per cent, some might be subject to a discount of 50 per cent.

Q. But what I was getting at, are not these prices an indication as to what would be regarded as a reasonable retail price?

A. No, I couldn't say that. I think that we would be glad if the dealer would get the prices named there, but I doubt if they ever do it.

Q. Are these general catalogs A, B, and C for general distribution?

A. They go to our agents, and are used by our traveling men and office force and customers. They do not go to the farmers.

Q. What shoe drill have you regarded as your strongest competitor?

A. Well, it is between the Dowagiac and the Van Brunt.

Q. The Van Brunt is a drill that sells for much less money than the Dowagiac, is it not?

A. I don't think so, Mr. Chappell.

Q. The Van Brunt is a coiled spring device, is it not?

A. Yes, sir.

Q. What other drills would you name as prominent competitors in the shoe drill business, disregarding disc structures?

A. Well, we would have to go back a few years, because shoe drils have not been in great demand for the last few years. It would be difficult for me to name them in any order. I can name some of the drills that we had to compete with, if that is what you desire.

Q. I simply wish the prominent ones.

A. Well, I don't know how I could make one any more prominent than the other. I can call off several of them. That is the best I can do.

Q. Well, name some of them without considering their prominence then?

A. Well, the Tiger, the Monitor, the McSherry, the Hoosier, and I could go on and give a whole lot of them, but those are the names that occur to me.

Q. The Monitor coil spring shoe drill has not been a very active competitor, has it?

A. Not as much as the Van Brunt or the Dowagiac.

Q. State which of these competitors were patented structures, if you know?

A. I don't know.

Q. Is the Michigan shoe drill made by the Dowagiac Manufacturing Co. the one you refer to?

A. Yes, sir.

Q. Are your agents and dealers given any instructions or information as to their competitors?

A. I don't believe I understand that question, Mr. Chappell?

Q. Well, you sell your goods in certain territory to dealers who are to retail them to the farmers as I understand?

A. Yes, sir.

Q. Do you give them any information and assistance as to how to compete with their competitors?

A. How to sell their goods, and how to show them up you mean to the farmers?

Q. Yes.

A. We sometimes do, yes, sir.

Q. Have you anything in the nature of printed instructions about that?

A. Not to my knowledge.

Q. Which of these competing drills did you find it necessary to educate the dealers about?

A. I don't believe that we would pick out any one drill, or any one tool of any kind in talking to an agent. Probably tell him all we could about our own and not advertise the other fellow's goods by telling him about those.

Q. I call your attention to page 252 of the Deere & Webber General Catalog B, and to the printed matter on that page, and ask you if that was not aimed particularly at the Dowagiac drill, the characteristics of the Dowagiac drill being referred to there (showing witness catalog)?

A. I don't see it. I am inclined to think that had reference to the Michigan drill, if I remember rightly. I think it was taken from a circular that the factory sent us.

Q. The Michigan drill never had a wood frame, did it?

A. I don't know about that.

Q. And the Michigan drill never had a gear drive for the feed, did it?

A. I don't know, Mr. Chappell. I know nothing in particular about the Michigan drill, except I believe it had a flat spring.

Q. And it never had a spring on the feed did it?

A. I don't know.

Q. Those various features I have mentioned are referred to in the printed matter at page 252, are they not?

A. If you read them I presume they are.

Q. Those are all characteristics of the Dowagiac drill are they not?

A. I have no particular information as to the details of the construction of the Dowagiac drill.

Q. Who got up this advertising matter at page 252?

A. Of the Dakota drill?

Q. Of this catalog, General Catalog B?

A. I think the matter for that page was taken from a circular the factory sent us. You mean the man that got the catalog up in our office?

Q. Yes.

A. I couldn't say as to that particular year.

Q. Can you produce the circular that was sent from which this was taken?

A. I don't know whether we can or not.

Q. How many of those circulars were sent out; do you know?

A. I couldn't say that.

Q. Did you pay an extra price for the Kentucky drills after the detachable heel was put on?

A. Well, I could not answer that question. Prices varied from year to year in accordance with the price of material and labor, and as to whether we paid more or less on account of that detachable heel I would be unable to state.

Q. Over what territory have you sold these Kentucky shoe drills, that is, your company, since you have been familiar with them?

Mr. Hull: I would like to have the record show that I ask to be permitted to appear specially as counsel for Mr. Webber for the purpose of advising the witness.

The Master:. Certainly.

Mr. Hull: And I object to this question, and to any questions being propounded to this witness as to where, to whom, or for what price he has sold these drills, on the ground that it is incompetent, irrelevant, and immaterial, and for the further reason that it would be a breach of

confidence for Mr. Webber to disclose the names of purchasers from the Deere & Webber Co., and upon the further ground that it is privileged for the reason that the Deere & Webber Co. is not a party to this suit, and can not now be called upon to disclose the parties to whom they have sold these drills, where they have sold them or for what price; and for the reason that the disclosure of such information would betray the secrets of the business of the corporation of Deere & Webber Co. to their competitors who are now seeking to obtain the information, and that it would expose its business methods and work irreparable injury to them. That is the objection which I shall make to any questions being propounded to this witness which may call for the names of the purchasers, or the prices which the purchasers paid, or the places of residence of the purchasers.

The Master: As far as this particular question is concerned, going no further than that, I think he should answer.

Mr. Hull: Well, I will make my objection in that form at the present time.

The Master: Yes. As to this particular question I will over-rule the objection, in the form the question is now. In its general form.

Mr. Hull: I will consent to the witness stating the general territory.

A. Our territorial lines have changed a little, possibly, in various years, but generally speaking they cover Minnesota, Northwestern Wisconsin, North Dakota, about the northern half of South Dakota, Montana and the northern peninsula of Michigan.

Q. In what portions of this territory have the Kentucky shoe drills been principally sold by your company?

A. Minnesota and the two Dakotas.

Q. Has the territory been particularly the Red River Valley?

A. You mean as to the quantity sold?

Q. Yes.

A. No, sir, I don't think so.

Q. Have not your largest sales occurred in the Red River Valley?

A. What do you mean, Mr. Chappell, that we have sold more in the Red River Valley than we have in any other place?

Q. Proportionately.

A. I can't answer that question. I don't think we have.

Q. You are not informed fully on that; is that right?

A. No, I could not make any definite answer to that without hunting up the records. My idea is that we have not.

Q. You could only tell by an investigation of your records?

A. Accurately and absolutely that is right.

Q. Is there any officer or employee of your company who would have that information without reference to the record?

A. No, sir.

Q. Your records then would be the only satisfactory evidence?

A. I should say so.

Q. Please name the towns where your principal agents are located?

Mr. Hull: That is objected to on the same grounds stated in my objection above noted.

The Master: I see, of course, your point, and the force of your objection, and when we come to more specific questions I would like to hear from both you and Mr. Chappell upon it, but as far as this question is concerned, as to the towns where their agents are located, I do not think the objection would apply. I will over-rule the objection as to naming the towns.

Mr. Hull: Note an exception.

A. I could not name the towns where our principal agents are located. We have been selling this drill for ten years. I couldn't tell.

Mr. Hull: I understand the same objection applies to all these questions, and the Master over-rules it.

The Master: Yes.

The Witness: I could not tell the towns where we sold the most without examining the records.

Q. Do you know of anybody who could tell the towns?

A. Not without examining the records.

Q. If I should produce a list of towns and read them to you, would you be able to identify the towns where you had agents?

A. Where we had agents?

Q. Yes.

A. I would identify some of them anyway, but your question is as to where we sold the most of them; the principal towns. That means that we would have to add these sales up for ten years.

Q. That was not my last question. My last question was, would you be able to identify the towns where you had agents if I should read them to you?

A. I have no doubt I would be to some extent. I might miss some of them.

Q. Would you have any objection to answering a question of that kind? If I furnish you a list will you check off such towns as you have agents at?

A. I will not unless the Court instructs me to.

Mr. Hull: Well, I think you had better produce your list. Not ask him what he is going to do, if it is done.

Q. I produce here a list of towns and ask you to refer to the same, and in each of the towns that you have an agent please put a check mark; where you have agents or have had agents for the Kentucky shoe drill, prior to the year 1904? (Showing witness paper.)

A. What is this supposed to be, a directory of the implement trade?

Q. That is a list, for the purposes of this question.

A. I could not answer that question without reference to the books, with any accuracy at all. Here is a list of a vast number of names of towns.

Q. Have you an agent at Atwater, Minnesota?

A. For Kentucky drills?

Q. For Kentucky drills, or did you have prior to 1904?

Mr. Hull: The same objection to that.

A. I don't know about that town.

Q. Ashby, Minnesota?

A. I don't know about that one, as it happens.

Mr. Hull: The same objection applies to all this, and exception.

The Master: Yes.

Q. Adams, Minnesota?

A. This is all about Kentucky drills, is it Mr. Chappell?

Q. Yes.

A. I don't know about that town.

Q. Albert Lea, Minn.?

A. I am not sure about that one.

Q. Alexandria, Minn.?

A. I am not sure about that one.

Q. Appleton, Minn.?

A. Well, Mr. Hull, that is getting down to a town that I know something about.

Mr. Hull: Well, I object on the same grounds as stated in my former objection. Now, if the Master please, that is a town to which the full force of the objection would apply. It is a small town, and it would be to disclose the name of our dealer there.

The Master: Now, Mr. Hull, it seems to me here is a town in which the question the attorney asks is this; whether Mr. Webber has sold any Kentucky drills in this town. Now, I think the question as to that is purely one of materiality. I can't see that any confidential relations are violated by asking the witness whether he had an agent in this town, and it might be material for the complainant to show that at this particular town, where he had an agent and where he had been in the habit of selling so many drills, that these people had an agent.

Mr. Bowman: Why not let him lay the foundation for it?

Mr. Chappell: How are you going to lay any foundation or make any offer of testimony about it?

The Master: He can't prove everything at once.

Mr. Hull: I object to it upon the ground that the disclosure of the location of the agent in this case would be exactly the same as calling upon the witness to disclose the name of the agent.

The Master: I can't see that it is disclosing any confidential relation that is not proper to be introduced in evidence, for him to state the name of the agent in a particular place. Now, when you come down to the question as to the prices that were made to that agent, I think that is another question, because I can not see that it is material to the complainant at what price he sold the drills. The question that is material to complainant is the price at which they were sold to the farmer in competition with his drill. The objection is over-ruled.

The Witness: In going over this list of towns, as Mr. Chappell is doing, it is impossible for me to speak with any accuracy as to whether we may have a dealer or may not have a dealer on Kentucky drills. I would have to guess at it more or less. A reference to our records would be the only accurate way to answer that question, and anything that I might say would be to a large extent guess-work on most of these towns.

Mr. Chappell: Well, I understand, if called upon, your counsel objects to any reference to any records, so I am obliged to get such information as you are able to furnish without the records. Later I shall ask for the records also so that that question can be raised, but as to what you do know about it, I think you should answer.

A. Well, I can't answer with any accuracy at all. It is purely guess-work. We sell a large line of goods, and we have agents pretty near everywhere in the territory, but as to whether they have sold Kentucky drills sometime during the last ten years, that is a pretty hard proposition, as a rule, on most of these towns, for me.

Mr. Hull: I don't see why we can't raise the question directly.

The Witness: I don't suppose you want guess-work here.

Q. Well, certainly there are some towns that you know that Deere & Webber have had agents appointed at for the sale of Kentucky drills?

A. Sometime during the last ten years?

Q. Yes.

A. I have no doubt I could recognize some of them.

Q. Well, now I want such of them as you can identify, and I have a list here that pretty well covers them, and it is a question of whether I shall read the list, or whether you will refresh your recollection by looking it over and name the towns, or whether you will decline to answer altogether.

Mr. Hull: He has answered that by saying that he could not state whether those agents handled Kentucky drills without guessing at it.

Mr. Chappell: But he says there are some towns that he knows about. Now I want those that he knows about. If it is necessary for me to read the list I will read it.

Mr. Hull: Well, lets get ahead.

Q. I understand Appleton, Minn., you now say that you don't know about?

A. I didn't say that.

Q. Well, the question is if you had an agent there for Kentucky drills prior to 1904?

A. Well, I must decline to go into that by guess-work, and I don't want to answer that question unless the Court thinks that we should go through our records and find out about it.

Q. Well, do you know or don't you know about Appleton?

A. I think I do know.

Q. Well, what do you think you know about it?

A. I think we have an agent there.

Q. Do you remember his name or the name of the concern?

Mr. Hull: I object to that. I object to his stating the name of the agent upon the grounds stated before.

The Master: Well, I think I will pass all these matters up to Judge Lochren and let him decide it.

Mr. Hull: Then your Honor over-rules the objection, and I shall instruct the witness to decline to answer that question until the Judge so orders.

The Master: On the advice of counsel the witness declines to answer.

Q. Arlington, Minn.; an agent there prior to 1904?

The Master: Have we got to go through each town in that list? Why not have him refuse to answer and bring this matter up?

Mr. Hull: We have got a record of this one as good as we could have by putting a thousand questions.

The Master: Of course counsel can pursue his own method of examination.

Mr. Chappell: Well, I will state for the benefit of the Master, and for counsel also, that I intend to show that this is a list of dealers and agents, which I have here, and towns in which Dowagiac drills have been handled, Dowagiac shoe drills, and it adds to the materiality of the question as to whether the Kentucky has been selling alongside in these different towns. Now, taking that into consideration, I don't desire to consume the time of the Master or the time of the witness, but there are some towns that he knows positively, so he states, that they have agents there. Now, he can glance this list over and check it at his leisure. I have no objection, only I want him to do it.

Mr. Bowman: You have got your record, and if the Court orders Mr. Webber to answer there is no question but what he will comply, and that he will then furnish a list, or check it off, or let you have access to get it.

Q. As to Aberdeen, South Dakota; have you an agent there selling Kentucky shoe drills, or have you had one there prior to 1904?

Mr. Hull: I object to that for the reasons stated in my former objection.

The Master: The objection will be over-ruled, and an exception noted, and the witness, on advice of counsel,

declines to answer the question as to Aberdeen, and also declines to give the names of any other towns where he has an agent, until directed so to do by the Court.

Q. Will you refer to your records on such towns as you do not remember about, and furnish me a list of the same, giving me the names of the agents; will you please do that?

Mr. Hull: I object to that question upon the same grounds before stated.

The Master: The objection is over-ruled and an exception noted, and the witness is instructed by Mr. Hull not to answer.

Mr. Hull: The witness is instructed not to answer until such time as the Court may direct him to answer.

Q. Can you give the prices at which these drills were sold in the different towns?

Mr. Hull: We object to that on the same grounds stated in our general objection.

The Master: I am extremely doubtful as to that question, but I have finally determined to let the whole thing go up at once, in view of the fact that the other matters will have to go to the Court, and I will over-rule the objection and an exception will be noted.

Mr. Hull: And I instruct the witness not to answer the question for the reasons stated in the general objection, until such time as the Court may direct him to answer.

Q. Will you refer to the records of your company and supply us such information as you are not able to supply from your recollection regarding the prices, and the dates and the quantities of shoe drills sold to the different agents in that territory?

Mr. Hull: Objected to on the same grounds and reasons as stated in my general objection.

The Master: The objection is over-ruled and an exception noted.

Mr. Hull: And I instruct the witness not to answer the question until such time as he may be directed by the Court to answer.

Q. I request the Master to mark for the purpose of identification the list which I have here, " Complainant's

Exhibit List of Dowagiac Contract Agents," as to which I will furnish proofs later, and complainant's counsel states that he hereby gives notice that he shall apply to the United States Circuit Court Judge for this District to pass on the question as to whether the witness shall answer the questions and to bring that properly before the Judge, hereby gives notice that a motion will be made, as soon as counsel can be conveniently heard, to punish the witness for refusing to answer the question, after he has submitted to the service of a subpoena and taken the witness stand, and I also request the Master to certify the questions and the proceedings, so far as the witness has declined to answer, to the Court, so that the matter can be brought before the Court in proper form for the determination of the questions.

CROSS-EXAMINATION BY MR. BOWMAN.

Q. Please explain from your experience what one feature, if any, has made the Kentucky drill salable, if there is any one feature, and explain your reasons for naming it.

A. The feature that has enabled us to sell Kentucky drills more than anything else is the detachable heel shoe.

Q. To what extent did you purchase the Superior shoe drill with coil springs prior to 1893?

A. Well, we sold the Superior shoe drills prior to 1893 for four or five years, and we sold something over 3,000 of them in that time.

Q. Was there any change, any noticable change in the number of Kentucky shoe drills sold by you as compared with the sales of Superior shoe drills, prior to the introduction of the detachable heel?

A. Well, the first few years that we had the Kentucky shoe drill we didn't sell very many of them; not as many as we had sold previously of the Superior.

Q. What was the fact as to the number of Kentucky shoe drills that you purchased of the Kentucky people for the three or four years after you began handling their drill, compared with the number that you had purchased of the Superior Drill Co.?

A. Well, as I stated, for the first few years we didn't sell as many Kentucky as we had the previous few years when we sold the Superior.

Q. When was there any very large increase in the number of Kentucky shoe drills that you purchased of Brennan & Co. with reference to the time that they introduced the detachable heel feature?

A. Well, we commenced to get the detachable heel in 1898, and our first large trade commenced with 1898.

Q. I think the record shows when that detachable heel was furnished you?

A. I said awhile ago we commenced to get it in 1898 I think.

Q. Have you had any trouble with the present shoe drill construction, in the salability of it?

A. The 1904 shoe drill?

Q. The 1904.

A. Not that we know of.

Q. You have given the number of machines purchased of this 1904 drill as 275?

A. 250 to 275, I think I said.

Q. 250 to 275?

A. Somewhere along in there.

Q. Now, what is the fact as to the proportionate decrease in your orders on shoe drills the last three or four years?

A. (Referring to memorandum.) I have compared 1902, 1903, and 1904, and the proportion of decrease is about the same in those three years.

Q. How do you account for this?

A. By the increase of popularity of disc drills.

Q. Why did you not succeed in getting the Superior shoe drill in 1893?

A. You mean for 1894. We dissolved in 1893. Because they wouldn't let us have it.

Q. Did they have any other arrangements, if you remember?

A. They contracted with Dean & Co. at that time.

Q. Was Dean a former associate?

A. Yes sir, we were in partnership previous to 1893 for some years. He was with us at the time we sold the Superior drill.

Q. Have you marketed the present 1904 shoe drill through the same channels that you marketed the 1903?

A. Yes, sir, through our regular agents.

The Master: The Master certifies the questions as requested.

UNITED STATES CIRCUIT COURT.

WESTERN DISTRICT OF KENTUCKY.

DOWAGIAC MFG. COMPANY
vs.
BRENNAN & COMPANY, et al.

In re Accounting before A. G. Ronald, Special Master.

Testimony on behalf of Complainant taken pursuant to consent of counsel, beginning at 10:30 o'clock in the forenoon, June 9th, 1905, at the office of the Clerk of the United States Circuit Court, Post Office Building, Louisville, Ky.

Present, Fred L. Chappell, Esq., on behalf of Complainant; Paul A. Staley, Esq., on behalf of Defendants.

FREDERICK W. HART being called as a witness by the Complainant, and being first duly sworn and cautioned, deposed and testified as follows in response to interrogatories by Mr. Chappell:—

Q. 1. Please state your name, age, residence and occupation?

A. Frederick W. Hart, age 25, New York City, expert accountant.

Q. 2. Please state your experience and training that qualifies you to testify as an expert accountant, not going into detail, but stating the same generally?

A. My experience extends over five years, and embraces work on books for manufacturing and trading concerns, of all descriptions.

Q. 3. You have been requested to review the list of sales prepared and submitted by Mr. Munn on behalf of the defendants herein and compare the same with the books of account of the defendant Company; please state if you have done so, and indicate fully the result of your investigations, submitting any lists or schedules that you may have prepared in that connection?

A. I thoroughly verified this list of sales beginning at

August 1, 1894, ending March 14, 1903. Various errors, manifestly clerical, were discovered, which are scheduled, schedules being summarized and affecting the total results as follows: —

The original list shows sales of 9776 drills comprising 167,407 furrow openers and sold for a total value of $526,342.42; while the final net figures as submitted by me now are 9406 drills and 167,494 openers, total selling value $504,094.25. These figures I arrive at by taking the sales list as rendered with my corrections and deducting therefrom the returns, discount, bad debts and allowances as claimed by the defendant and verified by me. I wish it understood that when I say deducted, I mean with the corrections I found necessary. Various schedules show details of these errors and omissions.

The schedules referred to by the witness are offered in evidence with a request that they be marked "Complainant's exhibit Hart corrections of defendants' list."

Special Master: Same are received in evidence and so marked.

Q. 4. You were also requested to prepare a list or schedule of Dakota drills; please state if you have done so, and if you can produce such list?

A. I investigated these sales, which I found to commence January 19, 1898, and to run to March 8, 1898. All these sales were to Deere & Webber Co., of Minneapolis, Minn., and amount to 149 drills of various sizes, consisting of 2716 openers sold for $7,046.50; these drills were all sold subject to discount of five per cent. I here produce schedule showing same.

By Mr. Chappell: Schedule produced by the witness is hereby offered in evidence with the request that it be marked "Complainant's exhibit Hart list of Dakota drills."

Special Master: Same was received in evidence and so marked.

Q. 5. You was also requested to review the books of the defendant company prior to Aug. 1, 1894, to ascertain whether any infringing drills in that period might possibly come within the settlements subsequent to that date, and I will ask you if you have prepared such a list complete, and to indicate in that connection in your judgment the drills that were settled for subsequent to Aug. 1, 1894, producing any schedules that you may have prepared.

A. I went back to August 1,1892, and prepared a list of all shoe drills sold by Messrs. Brennan & Co. up to the starting date of the original list rendered by them. Such list shows the names, addresses, and number and value of such drill sales, and when any notation was found in the books of the company showing the particular kind of drill that the sale had reference to, I noted it on my lists. I investigated the sales accounts of these different buyers of drills on the Company's books, and found various of the drills were not paid for until after August 1, 1894; such drills are listed specially, and I submit that there were 122 drills comprising 1578 openers sold for a total net value with discounts, etc., deducted (exclusive of discounts, etc.,) of $5,616.38.

Q. 6. Please indicate fully the lists and schedules you have prepared in this connection; I refer particularly to the substance of your last answer. Have you prepared a list of the 122 drills and also a list embracing all of the drills of the period indicated in your answer?

A. I have prepared such list, which I here render.

Questions 5 and 6, and the answers thereto, are objected to as irrelevant and immaterial and not coming properly within this accounting.

Complainant's Counsel: The schedules referred to by the witness are hereby offered in evidence with the request that they be marked "Complainant's Exhibit, Hart List of Sales from '92 to '94," and, "Complainant's Exhibit, Hart List of Drills sold prior to '94, paid for subsequently."

The above-named exhibits are objected to as incompetent, irrelevant, and immaterial, not coming properly within this accounting.

By the Master: Let the exhibits be marked "tendered" and "objected to." Special Master reserving his decision.

Q. 7. I note on page 4 of Complainant's exhibit, Hart Schedules '92 to '94, the name "Dowagiac." I ask you particularly if you found that name in the books of the defendant company, and to indicate the particular transaction to which it relates?

A. The name was placed on the sales books of the Company against a certain 20 shoe drill, sold to the Jennings Implement Company, St. Paul, Minn., on Feb. 22, 1893.

Q. 7(a). You have also been requested to review the books of the defendant Company, to ascertain the costs, selling price, and profits on shoe drills during this infringing period. I will ask you to kindly indicate the result of your investigations, and also to review the matter generally; indicate quite fully what

you have done and the methods you have employed to reach the general results which you indicate in the first place, and in answering this question, please refer to any schedules or lists that you may have prepared, explaining the purposes of the same, and explaining fully the reasons for all that you have done?

A. In answer to this question, I would first state that when the matter of calculating net profits on these infringing shoe drills was mooted I decided that from the information available on the books of account of the company, to determine these profits with any accuracy was not possible, but I was assured that the drill manufactured by the Dowagiac Company was a precisely similar machine, with the exception of some very small differences in the shoe and attachment, so it seemed to me then quite possible to calculate these costs and profits, using as a basis the weights as shown on the Dowagiac schedules; this is the only use made of any information shown on the Dowagiac schedules.

The result of my investigation is that I state the net profits for the period covered — namely, 1st of August, 1894, to 14th of March, 1903 — to have been $16,992.55. In arriving at these net profits, every possible care has been taken to get every expense to which defendants were put in manufacturing these drills and selling same into account.

The method adopted by me to get at these figures was as follows: —

I first had to take the list of sales as corrected by me and analyze such list, and bring it into such shape as would accord with the books of account of the company. By this I mean that the list, as will be seen, shows the sales in periods ending on the 31st of December of each year. The books of the company show their financial year ending December 31 for the years 1894, '95, '96, '97, '98, and on the 30th of April, thereafter. It was of course necessary to go through the same process with regard to the returns, discounts, etc.

The results of these analyses are brought together in a final statement which shows the sales of infringing shoe drills less all discounts and allowances for the different periods coinciding with the books of account of the company.

Next it was necessary to go through the company's books, analyzing the different accounts, segregating expenses into different headings as was deemed necessary in view of apportioning such expenses to infringing shoe drills. All the various analysis sheets and statements are here submitted, together with a final statement of profit and loss account, as per the books of the company, showing all these costs, expenses, sales, etc., brought together. This statement is a copy of the profit and loss account of the company with all the various items analyzed

as was necessary. The balance of this account each year and the profits made each year will be found to agree with the company's books.

Next, all the purchase invoices of the company were gone over, and from them were extracted the various prices of material used in construction of shoe drills. These prices were averaged out for each year, and a summary is appended showing the result of such analysis and averaging.

Next, from the Dowagiac schedules, various parts entering into the construction of a shoe drill were noted, and taking the weights of the various materials entering into these parts, the prices as found from the defendants' books and papers, and as analyzed by me, were applied, and the necessary calculations made to determine the costs of the material in each part during the different periods. These different figures shown as being the cost of each part during the periods, are brought on to statements showing the costs of materials for each period. The "cost of material" statements show the different parts for the different sizes of drills during each period.

A summary is made of these "cost of material" statements whereby the total cost of material entering into the shoe drills is arrived at for each period. Then a final statement is rendered, showing the cost of manufacture, expenses of selling, and resulting profits and losses on infringing shoe drills sold during the different periods. This statement shows, first, cost of material used, which comes from total cost of material statement. The labor necessary to convert these materials into shoe drills, and the manufacturing expense incurred, is arrived at by means of apportionment, the co-efficient for such apportionment being the ratio borne by the materials used on infringing shoe drills to the total materials used by Messrs. Brennan. The general and selling expenses are apportioned to infringing shoe drills by a co-efficient representing the ratio between the sales of infringing shoe drills and total sales. The traveler's salary and expenses are apportioned by means of a co-efficient representing a ratio between the sales of infringing shoe drills and the total sales, exclusive of all sales to Deere & Webber in both cases. This gives us the total cost and selling expenses of these infringing shoe drills, which, deducted from the net sales of such drills, leaves a difference, which is the selling profit or selling loss for each period. Then it was necessary to arrive at a figure that would cover the "indirect expense" that Messrs. Brennan were put to in carrying on this shoe drill business; that is to say, certain allowances for depreciations of buildings, wear and tear of machinery, rent (or allowance in place of same), cost of maintaining a necessary stock of machines and materials, and any allowance for the expense of credit given to customers. These indirect charges are apportioned to shoe

drills as shown on the statement. The apportionment of the depreciation, etc., being made according to the ratio between the sales of infringing shoe drills and total sales; and the expense of giving credit to customers being arrived at by taking four months at six per cent per annum on the value of the infringing shoe drills sold. These "indirect charges" being deducted from the selling profits, or added to the selling losses, results in the final net profit or net losses as shown.

A summary is made of these profits and losses, and such summary shows that the net selling profits during the period covered by the accounting were $38,532.98, and when the indirect charges are deducted, the final net profits made were $16,992.55. I had some idea that I could gain information as to weights, and also roughly as to the value placed upon machines and parts by Messrs. Brennan from their inventories and bills of lading. These documents and books were unfortunately not available, as they could not be produced.

By Mr. Chappel: The summary referred to by witness is offered in evidence, with the request that it be marked "Complainant's Exhibit, Hart summary of profits and losses made by defendant company, on infringing shoe drills."

The above exhibit is objected to as incompetent, as being a summary of facts and figures contained in other schedules which are not produced and offered.

The exhibit is further objected to as incompetent and immaterial, as being based upon information or facts not within the knowledge of the witness or obtained from the books of the defendants which he has examined, but which has been derived from information imparted to him by other such information which he has not verified.

By the Master: The objection will be overruled for the present, and exception noted for the defendant.

Q. 7(b). Will you kindly refer to the schedules from which you derived this summary, group and arrange them, and if you have not already marked them, give them an appropriate marking so that they can be identified in connection with your last answer, so that they may be offered in evidence, indicating any marking and arrangement that you may do.

A. The summary comes directly from "final statement" showing cost, expenses, and profits.

The details on final statement, viz., "Cost of materials used" comes from the "total cost of material" statement, the details going to make up such statement being —

1. Statements showing cost of material for different sizes of drills for different periods.

2. Statement showing cost of materials in parts of drills for different periods.

3. Schedules and summary of prices of different materials used during different periods.

All the above statements being grouped together under the heading, "Statements Relating to Cost of Materials."

Next, group of papers used to gain figures for apportionment of labor and expenses as shown on "Final Statement," consisting of —

1. Total sales to Deere & Webber used in apportioning "Travelers' salary and expenses."

2. Statement showing calculations to determine amount of expenses incurred by Messrs. Brennan indirectly: that is, "depreciations," etc.

3. Statement of profit and loss account of the company with the various papers, etc., used in arriving at figures shown on such statement.

Next, papers relating to analysis of lists of sales and lists of discounts.

The papers referred to by the witness are hereby offered in evidence with the request that they be marked "Complainant's exhibit, Hart working papers."

Q. 8. Please indicate about how much time was consumed by yourself and any assistants you may have had in this work.

A. I find on reference to rough notes that I have spent thirty-nine days on this work, and as far as I remember was assisted for about ten days by Mr. Kirby, making in all about fifty days' work.

By Mr. Staley: The above-named exhibits scheduled under answer to question 7(b), and introduced in evidence as "Complainant's exhibit, Hart working papers," are objected to as incompetent, as being made up in part from figures and data not found by the witness in the books or records of the defendant company, but from figures and data obtained by witness from others, and not verified by witness, and to this extent secondary and hearsay.

By the Master: The objection is overruled for the present, with an exception for the defendant.

At this point Mr. Hart's deposition was suspended, and Mr. W. G. Munn took the stand: —

Q. 1. I note Mr. Hart's testimony that he states that the inventories of the defendant company are missing. Do you know anything about such inventories?

A. There were inventory books among the books of Brennan & Co., but I do not know where they are at the present

time, and presume they must have been mislaid with other books at the time of remodeling our office.

Q. 2. Have you made search for them?

A. I have.

Q. 3. Among the schedules of sales introduced by Mr. Hart, namely, The Hart List of Sales 92-94, and then his testimony, a Dowagiac drill is referred to. Please state what you know about that drill?

A. That drill was obtained for us by the Jennings Implement Co., St. Paul, Minn. It was customary with us at different periods in our business, when contemplating a change in our machines, to get samples of other makes of similar machines, especially in cases where the machines were patented, as was the case of the Dowagiac drill in question, for the purpose of more clearly illustrating the patented features, in order that the device we proposed to get up might avoid the patent features. At about the same time we got the Dowagiac drill, we also had a Tiger drill, a Van Brunt drill, a Havanna drill, and I think we also had a Missouri drill. It is customary among implement factories to do this, and I have no doubt that the complainant factory has often gotten competitors' machines and had them in their factory for the same purpose.

Q. 4. Were Kentucky shoe drills manufactured at the same plant subsequent to March, 1903, that were made there before that day?

A. Yes, they were.

Objected to as irrelevant and immaterial.

Objection overruled.

Q. 5. I suppose you regard those as of the manufacture of the American Seeding Machine Co., do you not?

A. In answer to this question, I will state that I misunderstood the meaning of the preceding question, and in answer to the preceding question, I will say that no grain drills were made at the same plant subsequent to March 14, 1903, that contained the patented features of the patent in this suit, or that were like in that respect the drills formerly made at the same plant.

Q. 6. Will you please make further search for the inventory books and produce them, if you are able?

A. I will do so.

No cross-examination.

Adjourned until two o'clock P. M.

Met pursuant to adjournment.

Cross-examination by Mr. Staley.

XQ. 9. As I understand your deposition, you attempted to ascertain the cost of the different materials entering into construction of the defendants' drill, from invoices forming a part of the records of the defendant company, and to determine the cost of the respective parts of the drill, you multiplied this cost of what we would call raw material, by the weights of corresponding parts of the Dowagiac drill. Is this right?

A. That is right, if I understand your question to mean cost of material as price of material, which is what I call it in my statement.

XQ. 10. Did you make any attempt to find out what the weight of these parts were in defendants' machine?

A. I asked Mr. Munn if he could give me any information as to these weights; he said he was quite unable to do so. That is to say, I asked Mr. Munn if he had any weights; I did not specially ask him whether he had any weights of parts.

XQ. 11. Is this the only attempt you made to find what the actual weights were in defendants' machine?

A. No. As I have already stated in my deposition, I endeavored to get the defendants' inventories and copies of their bills of lading which I imagine might have given me information as to these weights; these documents and books were not available, as stated.

XQ. 12. Are these the only attempts you made to get these weights accurately?

A. Yes, to the best of my knowledge.

XQ. 13. The same thing applies, does it not, to the quantities of materials which did not go by weight, but by other measures?

A. Yes.

XQ. 14. From whence did you obtain the weights or measures assumed by you to enter into the construction of defendants' machine, in determining the cost of the parts?

A. From certain lists and schedules given me, which were stated to relate to the Dowagiac drills known as "Exhibit 1. Tabulated results of calculation cost of the various parts of a 11-6 wood frame and 12-6 steel frame, shoe drill," consisting of eleven pages of calculations as rendered by Mr. McVicker in his estimates of the costs of Dowagiac drill.

XQ. 15. No effort was made by you to obtain one of defendants' machines to ascertain the weight?

A. Not actually and practically, beyond my request as to whether they could give me any weights.

XQ. 16. You referred to bills of lading that you attempted to get; did you imagine that the bills of lading would give you accurate weights of these parts?

A. I hoped that the bills of lading, and with bills of lading

I would include any copies of freight bills I had, might at any rate give me some idea of the weights of machine, if not of part. I could then have compared these weights with the weight of the Dowagiac machine, and at least have known how the machines compared in this way.

XQ. 17. Did you regard the shipping weights appearing on the bills of lading or on freight bills as being even approximately accurate for figuring the costs of parts?

A. I should regard them as approximately accurate, at any rate for purposes of comparison, to see that the machines were practically the same.

XQ. 18. Don't you know, as a matter of fact, that such rates are rarely ever even approximately correct, in practise?

A. I know from experience that errors often do occur in putting down these weights, but I should presume that on the whole they would be tolerably accurate.

XQ. 19. Do you know that if a minimum carload of freight was for twenty thousand pounds, and that there was only fifteen thousand pounds put in the car, that it would be billed as twenty thousand pounds?

A. This may be a fact, but it is not within my knowledge. I can't answer the question.

XQ. 20. Then you would not know, I suppose, that if there were thirty thousand pounds put in a car, where the minimum weight is twenty thousand pounds, that the car would still probably be billed at twenty thousand pounds?

Objected to as not material.

Objection overruled.

A. I don't know anything about that.

XQ. 21. Do you know that shipping weights generally, and particularly those of manufacturers, on less than carload lots, are almost universally considerably under the actual rate?

A. I know this is often the case, but not invariably, and I would again state that I only required these weights for the purposes of comparison.

XQ. 22. Suppose you had found the bills of lading, and you had found a very wide discrepancy between the weights of those bills of lading, and the weights on the schedule produced by Mr. McVicker, would you have adopted the weights on the bills of lading for your calculation instead of those on Mr. McVicker's schedule referred to by you?

A. I should have taken the weights on McVicker's schedule which were sworn to as being correct and actual, and should have noted these differences on the bills of lading, and submitted

them in my depositions to be judged upon by some person conversant with the construction of these drills.

XQ. 23. Did you use the Dowagiac schedules and weights and measures, meaning those furnished by Mr. McVicker, of your own notion, or because it was suggested to you by others?

A. I used these weights because I found that I was required to calculate these profits, and could obtain no weights from the defendants' books, and it was then suggested to me that the weights of the Dowagiac schedules were for a precisely similar machine. The plan then of calculating these costs on the basis of the Dowagiac weights, with minor differences, it seemed to me necessary, appealed to me as being just and equitable.

XQ. 24. But whether or not it is just and equitable depends upon the truth or falsity of the statements that the machines are the same in this particular, is it not?

A. Entirely so, with the provision of the small differences I spoke of.

XQ. 25. And as to this particular question of fact, you are not able to testify of your own knowledge?

A. No, I do not know the practical construction of either the Kentucky or Dowagiac drill.

XQ. 26. Do you regard the statements appearing in your schedules of the costs of the various parts, and also the total costs of the machine, obtained by you by adding the cost of the various parts as a correct statement of the cost of defendants' drills?

A. I used every endeavor and effort to make these statements correct, as far as lay within my power, and I am satisfied that these statements and the result of them, namely, the final net profits, are, as near as can be determined by accounting methods, practically correct.

XQ. 27. You have referred to the fact that you have been unable to find the inventories as throwing some light on this question. Suppose you had found the inventories, and you had found from them that the defendants had sustained a very material loss on these drills during the period covered by your investigation, would you have changed your figures, based on your calculations, to agree with those of the inventories?

A. The inventories would not show any loss made on drills. I imagine that they would show the prices at which the defendants themselves valued their machines at the ending of each fiscal year or period. An inventory is simply a list of values, and shows no profits or losses, but inventories are always supposed to contain the actual cost of the various parts and machines. That I imagine would be a check on my figures for cost, not for profit.

XQ. 28. Well, it would amount to the same thing in the end, as the cost determines the profit. I put the question this

way: Suppose the inventory should show that the costs or value of particular parts were one-half what you have found them to be by your method of computation, would you adopt the inventory figures as being correct in lieu of those you have obtained by your method of computation?

A. I should have taken note of such differences, and mentioned them in my deposition for other judgment than my own as to why they occur, but I still should have rendered the figures as now rendered.

XQ. 29. As a matter of fact, in speaking generally, where no system of determining costs prevails in a factory, an inventory is about as near guess work as any record that is kept in such establishment, is it not?

A. All factories must necessarily, at the time, at any rate, know what their goods are costing them to put on the market, or else I fail to see how they can set their selling price, so I presume their inventory would be fairly correct.

XQ. 30. Don't you know that as a matter of fact that the net profit or net loss of a business is very frequently determined or governed by the way in which the inventory is taken?

A. Quite so; but from the very fact that the Brennan books show that the dividends have been paid out in cash, it follows that their net profits are fairly reliable.

Last part of answer is objected to as irresponsive and argumentative.

XQ. 31. But whether these dividends you refer to were made out of the six or seven other articles manufactured by defendants or out of grain drills, you are unable to say except by your estimate of the cost and profit — is it not true?

A. Yes.

XQ. 32. I notice, if I understand your method of computation correctly, you used what was called a 11-6 wood frame shoe drill as one of the drills that you used as a base for figuring the cost of the parts, and added to or deducted from this for the other sizes; the difference in cost are proportioned on the amount of material used in the 11-6 and in the other sizes.

A. I may not quite understand your question, but my method of computation was to take the 11-6 wood frame or the 12-6 steel frame and to work the other sizes from that base proportionately to the difference in weight.

XQ. 33. But why did you use the 11-6 as a base for getting at the other sizes?

A. Because that was the drill used in the McVicker schedule and so came most conveniently. Any drill of course would have done, but I should have had to work the whole of the weights proportionately from McVicker's figures.

XQ. 34. How many 11-6 drills were sold by the defendants

during this period according to the list of sales as corrected by you?

A. One drill of the 11-6 size.

XQ. 35. Then your basic size is a drill of which the defendants sold only one, so far as wood frame is concerned?

A. That is so, apparently, from the list of classified sales.

XQ. 36. Had you been working this out yourself, instead of using McVicker's schedules, do you think you would have chosen as a base for your figures, as a base, a drill of which only one had been sold?

A. Certainly, if I were given the weight of the drill of which only one was sold, or of which none at all were sold, I could work the proportions just as well.

XQ. 37. What has been your experience in the manufacturing business?

A. I have had no experience at all; my experience has been entirely as an accountant.

XQ. 38. Don't you think it is fair to assume that where a manufacturing company was making and selling a certain line of sizes of drills, and they made and sold only one of a certain size, that such drill would be a special drill, and the difference in cost would not be in the same proportion as the other sizes?

A. No; the assumption appears to me to be entirely false. In my statements it is only the cost of the material that is calculated on this basic formation, and the actual cost of the material in a machine, whether one or more of that certain class of machine were sold, would not vary at all.

XQ. 39. Is it your idea that an 11-6 frame, based on your method of calculation, costs just the same as a 12-6 frame in the same year?

A. That was my idea; it was the best estimate I could arrive at from the information at hand.

XQ. 40. As a matter of fact, you put it the same simply because Mr. McVicker put it the same; is it not true?

A. Not quite so; my method of arriving at this result was from the schedule of weights sworn to, I understand, by Mr. Hoyt. It is difficult from that schedule to say what difference there would be between the frame on an 11-6 and the 12-6. I did my best to take the figures that appeared to me most equitable, the matter being a very small one.

XQ. 41. Do you know what these figures mean — 11-6 and 12-6?

A. I understand this to mean a drill that has eleven shoes, and the distance between these shoes to be six inches.

XQ. 42. That being true, do you think you could put the 12-6 on the same frame that you put an 11-6?

A. I am unable to say.

XQ. 43. Well, wouldn't you say, without any definite

knowledge on the subject, that a frame for a 12-6 drill would have to be at least six inches longer than a frame for an 11-6, having one more shoe, the shoes being six inches apart?

A. Not being conversant with the matter, my opinion is worth little. It appears to me quite feasible that if the frame would suit for both sides of the drill, there must be a certain clearance at each end of the drill, and this might vary.

XQ. 44. Assuming that a 12-6 frame is, as a matter of fact, longer than an 11-6 frame, then your calculations in this particular are wrong, are they not?

A. If that is the case, then the 11-6 is slightly higher than it should be.

XQ. 45. Well, inasmuch as you used the 11-6 as a base, may it not be that the 12-6 is not high enough?

A. I understand from your question that all these matters refer to the years during which wood frame drills were manufactured. I would refer you then to the schedule of Hoyt's from which I made my proportions. You would then appreciate the difficulty, for the machines manufactured by the Dowagiac Company differ somewhat in character, so I had to use the best of my judgment to arrive at these proportions. Therefore it is quite possible that the 12-6 is perhaps little incorrect.

XQ. 46. The first part of the answer down to proportions is not responsive. Do you mean by the last part of your answer that the figures for the 12-6 frame may not be high enough?

A. Yes, on looking into it, it would possibly have been better to put that about three cents higher.

XQ. 47. Have you before you the schedules you say were sworn to by Mr. Hoyt?

A. Yes, it is schedule E, under the caption, "McVicker Schedule, Exhibit 2."

XQ. 48. Well, don't you find there that the machines scheduled on this schedule E are quite different in character from those appearing on the lists of sales by the defendants?

A. In the smaller sizes, that is the case. I can only say that I did my best to work the sizes for which I had no data proportionately to those whose weights appear in the schedule.

XQ. 49. As I understand your method, you figure what you call your base machine, as to the cost prices, for each year — is that right?

A. Yes; all my figures run in periods, not necessarily years. What I mean, not necessarily twelve-month years; in one case it was sixteen months.

XQ. 50. In Mr. McVicker's schedules, he worked this price of basic machine for only one year, did he not?

Objection to same.

By the Master: Objection sustained and exception.

XQ. 51. Why did you do this for each year or each business period?

A. Because the price of material might, in fact it did, vary considerably during the different periods.

XQ. 52. In looking over these schedules, I note that you apparently include the shoe and feed together in ascertaining the costs. Is this right?

A. That is so.

XQ. 53. Why did you do this?

A. Because the weights shown on the McVicker's schedules referred to were arranged in this way, and I could not separate feed from shoe.

XQ. 54. As I understand it, then there is no method or data appearing in your reports that would enable you to give the costs of these articles separate?

A. No.

Adjourned until Saturday morning, June 10, at 9 o'clock.

Met pursuant to adjournment, Saturday, June 10, 1905.

Present, same as on yesterday.

Cross-examination of Mr. Hart continued.

XQ. 55. In determining the charges to be applied against the sale of infringing machines, I understand that you took the total number of sales of all classes and determined the proportion of infringing sales to all sales, and divided the general and selling expense according to these proportions?

A. That is so.

XQ. 56. And this sheet, entitled "Statement showing calculations to determine amounts to be allowed for depreciation, etc.," shows the total amounts for this purpose as determined by you which were divided in the proportions above named, to determine the amount to be applied to the infringing sales?

A. That is so.

XQ. 57. And this table shows that you allowed a depreciation of two per cent on real estate and buildings and five per cent on machinery, tools, and other items therein. Is this correct?

A. Yes, that is so.

XQ. 58. Was the same method of dividing this general and selling expense as appears on this sheet marked "Final Statement showing costs and expenses, etc.," applied by you through all the periods shown on this sheet?

A. I regret that by an oversight I omitted to state in my deposition that the period from 1st of August to 31st December, 1894, is not treated the same as the other periods as shown on that statement. When I calculated out these figures, the

figures relating to the entire year ending 31st December, 1894, were not at my disposal, as part of this year was prior to the 1st of August, the date to which my investigation went back. Consequently, as the sales in this period were extremely small, I simply worked the expenses, etc., back from the year following, namely, 1895, making the proportions of expenses, etc., to sales the same as in that year.

XQ. 59. I understand that as far as the travelers' salaries and expenses are concerned, you divided these expenses between the infringing sales and the total sales, on the same proportion as you divided the other expenses named, except that you deducted from the infringing sales the sales to Deere & Webber Co., on which you allowed no expense for travelers. Is this right?

A. Not quite so. I did not allow any traveling expenses on the Deere & Webber sales, but at the same time in getting at the proportion of travelers' expenses to be made against shoe drill infringement sales, I excluded all Deere & Webber sales from the total sales to arrive at my coefficient for such apportionment.

XQ. 60. The point I was trying to get at is, according to the calculation, no traveling expense is allowed on a Deere & Webber sale?

A. That is quite true.

Cross-examination closed.

Re-direct by Mr. Chappel.

RDQ. 61. Will you please consider the profits and losses of the entire business of the defendant company, their total sales and their sales of the infringing shoe drills, and please make a comparison indicating the profits on the shoe drills, assuming that the shoe grain drill business was equally profitable with the other branches of defendants' business?

Question objected to first as not proper redirect; it is further objected to as incompetent, irrelevant, and immaterial. Filed objected to, and Master reserves his ruling.

By the Master: I think probably this matter would have come more properly on the direct examination of the witness, but as it has been overlooked, I can not see that any harm can be done by omitting it at this time subject to the ruling to be hereafter made as to its competency.

Complainant's counsel desires to remark that the figures and calculations that witness submitted in the first place were deemed accurate by complainant, but such testimony and calculations have been attacked on cross-examination, and have not been accepted by the defendants so far as the record seems

to go. The defendants have mixed their profits with the profits of the other branches of the business, and in view of the criticism it occurred to counsel that a pro rata division might not be objectionable, hence the question. It is submitted under the circumstances, therefore, that it is proper redirect, and in view of the position of the defendants it is pertinent to be considered.

A. In answer to this question I would state that the figures for such a comparison can not be taken directly either from the defendants' books or from my statement of the profit-and-loss account made from their books, for the reason that the indirect charges for depreciations, and so forth, that I estimated being proper, are very greatly in excess of those that the defendants placed upon their books. I have drawn off a statement making the necessary adjustments, so that the figure can be compared; this statement is somewhat rough, and I have not had time to look into every detailed figure, but the result shown by it is that by method of comparison the net profits would have been twenty-one thousand one hundred and twenty-six dollars and thirty-two cents. I arrive at these figures by taking the net profits or losses made by the defendants in the different periods, bringing the same together, giving a net result of profits $114,706.82. These profits were made on total net sales of one million five hundred and sixty-three, five hundred and fifty-seven dollars and twenty-five cents. From those net profits I estimate that $48,669.18 should have been deducted for indirect charges, thus leaving the profit at $66,037.64; and if this profit be distributed pro rata on the sales, that is to say, on the total net sales of one million five hundred and sixty-three, five fifty-seven dollars and twenty-five cents compared with the sales of infringing drills of $189,913.28, gives a resulting profit on the shoe drills of $21,126.32.

The statement referred to by the witness is offered in evidence with the request that it be marked "Hart proportionate profit statement, Complainant's exhibit."

The statement referred to is objected to, for the reasons and on the grounds stated for objection to the preceding question.

By the Master: Same ruling as before.

By the Witness: I would state that in making these calculations anywhere spoken of in my deposition, no account whatever has been taken of the infringing shoe drills sold by the defendants prior to Aug. 1, 1894, and settled for after that date, or of the Dakota drills sold by them in 1898-9. In short, the profits I submit are simply calculated on the drills actually listed by Messrs. Brennan, as corrected by me.

Deposition closed.

UNITED STATES OF AMERICA, DISTRICT OF KENTUCKY.

IN EQUITY.

DOWAGIAC MANUFACTURING COMPANY,
Complainant,
vs.
BRENNAN & COMPANY, SOUTHWESTERN AGRICULTURAL WORKS, A. G. MUNN, HARRY M. BRENNAN, W. G. MUNN, AND MATTIE WELLER,
Defendants.
No. 6820.

In the matter of Accounting before A. G. Ronald, Special Master.

Examination of the witness, George H. McVicker, which was adjourned on November 2nd, 1904, resumed pursuant to consent of Counsel of both parties at the office of the Dowagiac Manufacturing Company, Dowagiac, Mich., beginning at 2 o'oclock on the afternoon June 26th, 1905.

Present: Fred L. Chappell, Esquire, on behalf of Complainant; Paul A. Staley, Esquire, on behalf of Defendants.

RE-DIRECT EXAMINATION RESUMED BY MR. CHAPPELL.

RDQ. 137. In your testimony formerly given certain years were omitted in schedules. Have you prepared schedules covering the period omitted? If so, kindly produce same and make any explanation as to the schedules you have prepared.

A. I have prepared schedules for the two omitted years 1892-3 and 1893-4, copies of same appear in the

bound volume of Accounting schedules, pages 24 and 25 and pages 29 and 30. The schedules were prepared along the same lines as those made for the other years, with the exception that those on pages 24 and 25 combined all of the parts in one tabulated statement for the year instead of having a separate sheet for each part.

In order that there may be no question about the identity of these schedules, I cut them out of the book and offer them independently therefrom.

SCHEDULES IDENTIFIED BY COMPLAINANT'S COUNSEL.

The schedules referred to by the witness are offered in evidence with request that they be marked "Complainant's exhibits 1892-3 and 1893-4 schedules."

Objected to on the same grounds as stated in objection to Exhibits 1, 2, 3, and 4 in the former deposition of witness.

By The Master: Same ruling as heretofore.

RDQ. 138. I requested you also to prepare a schedule of cost of a typical size hoe drill selecting one which from your information seemed to be appropriate for that purpose. If you have prepared such a schedule will you please produce it indicating the year and also the size of the machine?

A. I prepared a schedule for the year 1899-1900 for a 12-6 Hoe Drill and I here produce a copy of the schedule.

SCHEDULE IDENTIFIED BY COMPLAINANT'S COUNSEL.

The schedule offered in evidence with request that it be marked "Complainant's exhibit 1899-1900 12-6 Hoe drill schedule."

RDQ. 139. Will you kindly explain from what sources you derived the information for preparing this schedule? State such as was furnished you by others stating who furnished the information and state such as you received at first hand from the books.

The schedules above offered are objected to on the same grounds as above ruling.

A. I was informed that certain parts of the hoe drill

were identical with those in the Shoe drill and was supplied by Mr. Hoyt with a list of material, quantities of same for the parts that differ from shoe drills, such as frame, hoe and feed and zig zag lever. By reference to the schedule of prices for material previously adduced I determined the proper rates to use for the year 1899-1900 for the particular parts of the hoe drill that were different from hoe drills and calculated those costs separately. Then I prepared a summary of material and labor expenses and supplies adding to the above referred to parts that belonged only to hoe drills and costs for the sections or portions that had previously been ascertained in other schedules and so indicated in this schedule thereby determining the total cost of a 12-6 hoe drill for the year 1899-1900.

RDQ. 140. Please refer to your former schedules, the working papers. I note that in certain schedules you have referred to an item as " Labor, expense and supplies; " in these working papers I understand the year 1891-2 appears a statement as to what constitutes an item for that year's supplies and expense. Will you kindly indicate which of those items should be regarded as overhead expense and which items vary with the volume of business, so far as you are able to determine?

Question objected to on the ground that same question is answered in answer to Q. 10.

Objection over-ruled.

A. By reference to copy of the working papers to determine items under the heading, " Labor, expense, and supplies " they could be termed overhead or fixed expenses, there is shown separate insurance and interest on investment. The taxes paid were evidently included in the expense account as they are not shown here separately. Also provision was made here for repairs, maintenance of buildings, machinery and tools. Part of the non-productive labor was engineer's salary and watchman's salary which should be considered as fixed expenses, as also the Superintendent's salary.

RDQ. 141. As to the item of bad debts. I understand you noted an error in schedule prepared and that the schedule you prepared relative to bad debts is inaccurate. Is this correct?

A. It is correct.

CROSS EXAMINATION BY MR. STALEY.

RXQ. 142. You were also asked in question 136 just

before your deposition was adjourned in November, to prepare schedules along the lines which you had indicated, which I understand was as to the distribution of certain items of expense such as bad debts and similar items on a pro rata basis, instead of on a basis of total number of machines sold. Did you prepare these statements?

Complainant's counsel desires to remark that on reviewing the schedules that had already been prepared and submitted in evidence by witness, it seemed that the data for these calculations had already been adduced, and as it was simply a matter of computation, counsel directed a clerk in his office to make the calculation and informed Mr. McVicker that it would not be necessary for him to spend time on it. The clerk was Mr. Wylie C. Margeson, and will be produced as a witness if Counsel desires.

A. I did not prepare them.

RXQ. 143. In looking over your schedules I did not see any item of freight on the materials. How did you treat the item of freight on incoming stock and material?

A. In the schedule of prices of material indicated as schedule "B" it was previously adduced the prices shown were in most cases found to be f. o. b. Dowagiac; when tests were made with purchase contracts, invoices, etc., and due allowance had been made for freight, etc., in other instances.

RXQ. 144. Can you tell what items in this schedule were f. o. b. Dowagiac?

A. I can not positively state any particular items that were f. o. b. Dowagiac unless I referred to said purchase contracts and invoices.

RXQ. 145. Then you are unable to state also which of these items are supposed to have freight added to them?

A. I am unable to state from the face of the copy of schedule the prices of material.

RXQ. 146. In determining the percentage to add to your estimated cost of the material based on the total amount paid out for material in the basic year, what items did you use in the amount so paid out for the year?

A. I used such purchases of material as entered into and became part of Shoe Drills in the construction of same, such as lumber, iron, cotters, spokes, rims, bolts, nuts, rivets, paint, etc.

RXQ. 147. Do your schedules, or any of them show

these items and the source from which you obtained them?

A. The original working papers which have been previously adduced as Complainant's exhibit " McVicker's working papers, 1891-2 " show entered in skeleton form without reference or index, the several items I found as being material, when analysis was made of the merchandise account for that year.

RXQ. 148. Do you find any items of freight contained in this schedule of the working papers?

A. This schedule of the working papers is entirely in skeleton form and freight items, if any, are not separately indicated.

RXQ. 149. Are you able to state whether or not there are any freight items?

A. I am not able to state from memory.

RXQ. 150. So far as your testimony goes you are unable to state from your own knowledge whether any freight was included in the items supposed to represent the prices of the material which were furnished by others.

A. When tests were made to satisfy myself of the verity of prices as per schedule " B " schedule of prices of material previously adduced consideration was given in the matter of freight and as previously stated the prices were in the majority of cases f. o. b. Dowagiac, and in case freight was paid by consignee the amount of same was deducted from the invoices rendered by creditors when same were paid.

RXQ. 151. Are you willing to find out which of these items were f. o. b. Dowagiac, and which had the freight deducted from them as you have testified?

Complainant's counsel desires to remark that the witness has spent several weeks in adducing these schedules from the books of the Dowagiac Manufacturing Company and remarks it is not fair to ask him to repeat the performance at the expense of Complainant. The invoices and the contracts for material for the various years covered by the schedules are open to the defendant to inspect, either by counsel or by his own expert, and will be produced at any time for such an inspection at the office of the Dowagiac Manufacturing Company. Under these circumstances the question is objected to.

Counsel for defendant states that he regards the item for freight as a very important item. He believes the total amount of freight on incoming stock and material has been kept by complainant company during a part of

the time, at least, in a separate account. That to determine, even approximately, the cost of material these freight items should be taken into consideration, and where so called "Working papers" are introduced which are supposed to show how witness arrived at certain conclusions and results, these freight items should appear along with the prices of material in order that the Court may determine from these sources, as well as others, which are supposed to be produced here, the correctness of the work of the witness.

A. I am willing to do so if compensated therefor and arrangement made for time with my present employer.

By the Master:

RXQ. 152. I want to know if in arriving at the cost to the complainant of the material embraced in the construction of the shoe drill in cases where the contract price of such material was not f. o. b. Dowagiac, you added to such contract price the freight on such material in arriving at the actual cost to the complainant?

A. As I recollect, in making the tests of the verity of the prices as per schedule referred to invariably material purchased under contract was f. o. b. Dowagiac and such as was not f. o. b. Dowagiac or not covered by purchase contracts did not amount to very much, and as I recollect it, the prices in said schedule were adjusted to include or cover the freight and be uniform with those that were f. o. b. Dowagiac.

RXQ. 153. I understand from your last answer you are not positive about this?

A. I am not absolutely positive as it has been some time since I made the tests referred to.

RXQ. 154. Would it not have been a simple matter in compiling these tables under the head of "McVicker's Working papers 1891-2" when analyzed from merchandise account to include in a separate column the items of freight, if any, or to have designated them from the material if they are in fact included in the column under material?

A. It would have been a simple matter to have done that.

RXQ. 155. Do your working papers show any figures from which you determine the net selling price on shoe drills?

A. The final summary Exhibit "4" shows net sales price and other information. They are not, the results are, and the figures are not shown but the results of calculations made are scheduled.

RXQ. 156. As I understand it the figures appearing under the heading " Net sales price " on the final summary purport to show the result of some computations which you made from the books or other papers of the complainant Company, but the figures or amounts which were used by you in obtaining these results nowhere appear in the exhibits which you have filed.

A. That is right.

RXQ. 157. I think you have explained that the year 1891-2 was used as a basic year to arrive at a certain percentage to be added or substracted as the case might be, to the estimated cost to make it agree with the actual amounts on the books. Is that right?

A. That is right.

RXQ. 158. And, I understand that you made no computation in any other year to determine this percentage of error, if such existed. Is that right?

A. I did not prepare full set of working papers with that end in view, for any other year, but tests were made, I believe, and it was found other years were affected by conditions that rendered them not suitable to use for basic purposes — that is, other styles of implements were manufactured and handled and involved the figures.

RXQ. 159. You say you believe that tests were made. If you know this to be true state in what years such tests were made and how they were made.

A. As I recollect it, the accounts in subsequent years were so kept that the total results were readily determined without a great amount of analysis, but I do not remember which years were considered, as I do not know what has become of the rough memorandum figures that were prepared, nor do I remember how they were made.

RXQ. 160. Referring to Exhibit " D " schedule of implements sold 1891-1903 will you tell me what per cent of the total implements sold were shoe drills in the year 1900-01?

A. I can not tell from the face of the schedule the percentage asked for without making computations from the figures shown thereon, but can determine the percentage for that one year, in a few moments. . . . After making calculation I determine from the schedule referred to for the year 1900-01 that of the total number of implements sold (4903) 57 3-10 per cent (2812) were shoe drills. This did not include the Michigan drill and the percentage with same included is 63 2-10 per cent.

RXQ. 161. Do you remember whether or not the books showed during this year the amounts paid out for material and freight on same?

A. As I do not remember I will look at the ledger and ascertain. . . . By reference to merchandise account on page 2 of the ledger for that year I find that $7,772.88 appears as being amount closed into the account, a separate account that was carried to represent the freight on stock and material, but the merchandise account does not show separately the amounts paid out for material, as the sales of merchandise are involved with the entries for purchases.

RXQ. 162. You also find, do you not, that $10,530.28 appears in the merchandise account as having been transferred from merchandise freight account?

A. Yes sir. I find such an amount as having been transferred from merchandise freight account.

RXQ. 163. In the first of these items is the amount of freight paid on stock and material purchased and the second of such items is the amount of freight paid on the goods sent out. Is that correct?

A. That is as I understand it.

RXQ. 164. And these particular items of freight were in this year, at least kept separate in separate accounts under the heads, Stock and material, freight, in one case and Merchandise freight in the other case. Is this right?

A. That is right.

RXQ. 165. Do you know what account was made of the freight on goods returned?

A. I do not know unless it was included in merchandise freight.

RXQ. 166. Do your schedules show in the different years or in any year the number of machines produced during that year?

A. In the working papers for the basic year, being page 8 of complainant's exhibit "McVicker's working papers 1891-2," is a list of shoe drills produced for that year but that is the only year in which they were scheduled by me.

RXQ. 167. Could you tell by reference to the books, not involving a long examination, how many machines were produced in the particular year 1900-01?

A. The sales for the year including the inventory at the end of the year, less the inventory at the beginning of complete implements would be the number produced. I have inquired from Mr. Hoyt for the number of machines on hand at beginning and end of year 1900-01 and he informs me that there were none, so the sales for the year would be the production.

RXQ. 168. Will you take the sales of shoe drills as it appears on Exhibit "D" schedule of implements sold

1891-1903 and multiply the estimated cost as determined by you by the number of shoe drills sold in this particular year 1900-01 and determine what the total cost of the production of shoe drills was during that year?

Adjourned until 9 o'clock in the forenoon of June 27th, 1905.

Met pursuant to adjournment June 27th, 1905.

Cross examination by Mr. Staley continued:—

A. I have made the calculations and determined in that manner the total costs of shoe drills made in the year 1900-01 to be $198,842.90, the prices shown in the schedule referred to in the question were not complete as they did not cover Michigan drills and three of the sizes of other shoe drills were also missing. Mr. Hoyt advised me that the prices for Michigan drills should be $2.00 less than those for the corresponding sizes of other shoe drills, and the missing prices were obtained by reference to schedules prepared by others.

RXQ. 169. My understanding is that these figures show the aggregate cost including material, labor, expense, and supplies. Is that right?

A. In addition to material, labor, operating expenses, and supplies the prices include general and selling expenses.

RXQ. 170. You say these figures also include general and selling expense. Does that include freight?

A. It includes freight on purchases but not freight on sales.

RXQ. 171. To determine your estimated cost of materials entering into the drills for certain year the figures at the bottom shown opposite the word totals on the schedules Exhibit " 2 " page 11, should be multiplied by the number of drills of each size sold during that year. Is that right?

A. The totals referred to if multiplied by the number of machines of respective sizes for that year would give an estimated cost subject to adjustment in accordance with the percentage determined from the basic year and shown in these schedules.

RXQ. 172. By leaving out of the question the adjustment to be determined by the basic year these figures opposite the word " total " and under the columns marked with the sizes of the machines are supposed to represent the cost of material entering into these particular ma-

chines ascertained by multiplying prices of material by the estimated weights or quantities given. Is that right?

A. That is right.

RXQ. 173. For instance, on this basis the cost of the material entering into the 13-5 and the 13-6 would each be $17.12.

A. It is so shown on the schedule.

RXQ. 174. Will you now kindly look at the ledgers for the respective years ending June, 1898-1899 and 1900 being years just preceding the one you looked up yesterday and give the amount of freight as it appears by these books which was paid out in these respective years on stock and material and also the amount paid in these years on merchandise?

A. For the year ending June 30th, 1898, I find stock and material freight shown as $12,238.33 and merchandise freight $12,787.00. For year ending June 30th, 1899, stock and material freight $21,546.88, merchandise freight $22,529.03. For year ending June 30th, 1900, stock and material freight $19,375.08, merchandise freight $21,153.10.

RXQ. 175. Where in your schedules do you purport to give the net sales price on different machines for different years, what if anything was done with the items of freight which I understand would come under the head of merchandise?

A. In the explanation previously adduced for final summary I explained the method of determining the net sales price for each year and stated that from sample sales contracts that were produced from the files I made due calculations for freight allowance and freight discounts, and further stated that in such years as contracts called for delivery at point of destination the freight rate to Fargo, N. D., was used and such years as point of delivery was Minneapolis the freight rate to Minneapolis was used. The larger size machines from 15-5 up were considered as sold in the Northwest territory and smaller sizes below 15-5 were considered as sold in home trade wherein freight allowance was not made.

RXQ. 176. Do any of the schedules that you have produced here show what these allowances for freight or for cash discount were?

A. The schedule of general and selling expenses shows cash discount allowed but I do not find that the merchandise freight is shown on any of the schedules.

RXQ. 177. And as I understand your schedules none of them show the allowance made for freight on stock materials, except as it may have been included in the

schedule of prices of materials but not separated. Is that right?

A. That is right.

RXQ. 178. Will you please turn to your schedules of material, also for labor, expenses, and supplies and determine what your estimated cost is on a grain box for 15-5 machine in the year ending June 30th, 1898?

A. On schedule shown as exhibit "2," page 7, the cost of 15-5 wood frame shoe drill for the year 1897-98, the grain box material is shown as $1.26 minus and on schedule exhibit 2, page 3, for 15-5 wood frame shoe drill the labor, expenses, and supplies for grain box is shown as 80c. minus being total of $2.06 which amounts are subject to adjustment by percentage on basic year, and on making calculations for the said adjustment the total of material, labor, expenses, and supplies is found by me to be $3.12.

RXQ. 179. I will ask you to turn to the inventory book which is before you for June 30th, 1898, and ask you what you find the inventoried price of grain box complete for that year?

A. I find the price shown as $6.00.

RXQ. 180. Will you kindly ascertain estimated cost from your figures of the grain box on a 12 bar machine for the year ending June 30th, 1900?

A. After making calculations as for the previous question I find the cost for 12-6 shoe drills for 1899-1900 to be $3.40.

RXQ. 181. Will you turn to the inventory book for same year and find how the 12 Shoe grain boxes were inventoried for that year?

A. As shown on the inventory as 48 with total weight 8584 lbs. at 4c. per lb.

RE-REDIRECT EXAMINATION BY MR. CHAPPELL.

RDQ. 182. Calling your attention to answer to RXQ. 152, I note you use the term "adjusted" in reference to the freight on material received. I will ask you to explain exactly what you mean by that word "Adjustment" and also to indicate more fully what you did regarding the freights on incoming material? You mention that some of the same was listed f. o. b. Dowagiac but your answer does not seem to be very clear as to any items of freight where the material is not furnished f. o. b. Please explain fully if these other freight items were taken into consideration at any place in your calculations, and how.

A. In the answer to the question RXQ. 152, wherein I said the prices were adjusted to include or cover the freight I meant that the price per lb. for instance on pig iron, etc., had been entered on the schedule of prices at the figures sufficiently higher than the invoice price to make allowance for the freight charges on material that was not purchased under contract f. o. b. Dowagiac. In the complainant's exhibit " McVicker's working papers 1891-2 " freight charges on material purchased appearing in the merchandise account were distributed or placed under the heading " Material " in the analysis made by me along with the cost of material as charged from purchase invoices. The freight on same being considered as part of the cost and thereby placing all material on the same basis, that is f. o. b. Dowagiac.

RDQ. 183. Call your attention to certain documents which I now hand you and ask you to identify the same as anything that you utilized in preparation of the schedules you have submitted.

A. I have looked these papers over and find them to be typical or sample sales contracts such as were produced from the files and used by me in making calculations to determine the net sales price for the several years per exhibit " 4 " final summary previously adduced. I also notice attached to and along with these sales contracts samples of settlement statements pertaining thereto.

The contracts and settlements referred to I hereby offer in evidence with request that they be marked " Complainant's exhibit sample trade contracts with settlement sheets attached."

Complainant's counsel desires to remark that these contracts and settlement sheets form a part of the permanent records of the Dowagiac Manufacturing Company and asks that the Company may retain possession of the same, producing them for inspection of the Master and opposing counsel whenever desired and producing them in Court at any hearing involving this matter.

Said papers are initialed by the Master A. G. R. and numbered 1 to 62 inclusive.

Complainant's counsel desires to state that the contracts and settlements of which those just offered in evidence are typical are on file in the office of the Dowagiac Manufacturing Company here at Dowagiac, several thousand of them I believe, and they are open to the inspection of the defendants for their counsel or other

authorized agents for any purpose in connection with this Accounting.

Defendants' counsel objects to these exhibits as incompetent as not being properly identified by the witness as the particular contracts or settlement statements used by him in making calculations. The offer for inspection of the thousand or more contracts does not in defendants' counsel's opinion overcome the objection unless the witness designates the particular contracts and settlements used by him.

The Master reserves his ruling on the objection.

RDQ. 184. Please state the exact method adopted by you or exactly what you did, to ascertain the selling price of the shoe drills for the different years that you have considered the same in your schedules, considering particularly the contracts and settlement sheets just offered in evidence and just offered for inspection.

The last objection is repeated, the question further objected as not proper re-direct, and by consent this objection will stand through all this line of testimony.

The Master reserves his ruling on this.

A. Contracts and settlements just offered in evidence I can not identify as having been any that I have ever handled before, but in the preparation of exhibit "4," final summary, I had access to the files and examined numerous contracts in each year and determined that the sales price was supposed to be identical in each instance as also the contracted trade discounts and freight allowances. I then made calculations for the various sizes of machines in each year as I considered same to determine the net sales price with the prescribed trade discounts and freight allowances deducted from the listed prices.

RE-RECROSS BY MR. STALEY.

RXQ. 185. Referring to schedule "B" prices of material 1902 to 1904 under the head of pig iron can you tell how much of the figures there shown represent the contract price and how much freight has been added?

A. I can not tell from the face of schedule "B" how much was allowed for freight and prices as it is not shown separately there and I do not recollect the exact makeup of the pig iron prices that are shown on the schedule.

By the Master: I do not know that I clearly understand your method of computation. As I gather

from the evidence you were furnished by Mr. Hoyt with the weights, where the purchase was by weight, and the measurement where the purchase was by measure, of the various component parts of a shoe grain drill. In your calculation you adopted as a base 11-6 wood frame and a 12-6 steel frame, and the year 1891. You were further furnished by Mr. Hoyt with the cost of the various material and the cost of the labor necessary to produce the drill, which figures you verified by tests or examination of the Company's books. From the figures furnished you as to the cost of material and the cost of labor, the actual productive cost of a shoe grain drill of the sizes I have named, was obtained. To this productive cost you have apportioned to a drill of this size its pro rata of the overhead expenses, fixed charges, bad debts, free repairs and other debit items in the operation of the plant. After having ascertained in this manner the total costs to the complainant of producing a drill you ascertained the pro rata of the selling expense chargable to a drill of this size and thus obtained the total cost to the complainant to produce and sell the drill in question. On comparing the figures thus obtained with the actual figures shown by the books of the Company you found that it was necessary to add 25 per cent to the cost of material; 93 per cent to the cost of labor to bring it up to the actual book cost. The percentage thus obtained you used throughout the other years in arriving at the total cost for the various sizes of drills in the different years covered by the accounting, basing however, the cost of material upon the contract price of material for the year in question. In arriving at the net amount received by the complainant you examined certain numbers of the complainant's selling contracts for each of the years covered by the Accounting and from the contract price therein named deducted the trade and cash discounts and freight allowances, thus arriving at the net amount received by complainant for their drills of various sizes. Will you please correct the statement I have made where it is in error and make such further explanation as is necessary to a complete understanding of the method you pursued.

A. The only discrepancy that I notice is that you carry too far the process under the specification or heading "A drill of this size;" that is, you have cited that the general and fixed selling expenses, etc., were apportioned to a drill of this size when the procedure that was followed was after determining the prime cost, then the cost of the various other sizes in proportion to a drill of this size was determined and the adjustment for

the basic year was then made, to which adjusted figure was added the expenses, etc., referred to in determining the cost and expenses as per exhibit "4" Final Summary.

By the Master: In obtaining the figures 25 per cent and 93 per cent which you have used in your calculations you took the difference between the estimated prime cost and the prime cost as shown by the books for the basic year 1891-2.

A. On page 7 of Complainant's exhibit "McVicker's Working papers 1891-2" is a recapitulation or summary of same showing the totals were arrived at in the foregoing analysis and the amounts determined as being the total material used and labor expenses and supplies as per the books for the basic year. On page 8 of the said working papers appears the calculations made to obtain the total of material used and labor expenses and supplies as per the figured prime costs, also the difference between same and the books is there shown and the corresponding percentage.

GEO. H. MCVICKER.

CHARLES L. FOWLE, having been heretofore sworn, is called to testify further in behalf of Complainant in response to interrogatories by Mr. Chappell: —

Q. 1. You are the Sales Manager, I believe, for the Dowagiac Manufacturing Company?

A. Yes.

Q. 2. In the Cross-examination of some of the witnesses for the Complainant the question arises as to which is the more equitable and fair method of distributing the selling expense of the different machines manufactured by the Dowagiac Manufacturing Company; whether that expense should be distributed pro rata by value of the machine, or whether it should be distributed equally between the whole number of machines, and the same question also arises regarding the general expenses, such as the expense of supervision and certain office expenses in that connection. Please state which in your judgment of these methods is more nearly correct and accurate and explain your reasons for making the statement?

A. The cost per machine is the more correct basis. In fact, I am certain it has cost the Dowagiac Manufacturing Co. more per machine to sell their smaller drills than it has cost them to sell the larger ones because the smaller ones have been marketed where the drills were sold in smaller numbers by their customers, necessitating

more road work by far for the number of drills sold, and that is true of the office expenses as well as the selling expense, because it takes more time to look after 25 accounts representing 100 drills than it does three or four accounts representing the same quantity.

Q. 3. Which of the drills have been sold to the farmers in the larger lots, the small size drills or the large size ones, so far as you know?

A. By that question I infer that you mean sold to farmers through our agent customers. If that is true, the larger size.

Q. 4. I notice in one of your catalogues there is a statement that on 10 farms there are 350 of the 22 shoe drills. Are you familiar with the facts that back up that statement or is that an extravagant advertising statement?

A. That is correct; it is not an extravagant advertising statement. Between 90 and 100 were purchased by one farm — the Grandin farm at Hillsboro, N. D.

Q. 5. Are you familiar with the patented features appearing on the shoe drill according to the testimony of Mr. Hoyt as given in this case, other than the features of the patent here in suit?

A. I am familiar with the patents referred to, but not perfectly so with Mr. Hoyt's evidence.

Q. 6. I call your attention to those patents which are offered in evidence; particularly to patent, first, No. 411,141 to C. L. Fowle for shoe for grain drills patented September 17th, 1889, and ask you in that connection whether the appearance and function of the shoe were changed by the features of that patent so as to enable you to take advantage of such facts in furthering the sale of shoe grain drills having that device?

Question objected to as incompetent.

A. The appearance was somewhat changed but the material functions of the shoe were not.

Q. 7. What was the essential advantage of this patent so far as shoe grain drills are concerned, or the patented features, I should say?

Same objection as last.

A. It required less material for both shoe and boot and a shorter weld of the shoe.

Q. 8. I call your attention to the next patent chronologically that was considered particularly by Mr. Hoyt.

namely, patent No. 448,861, March 24th, 1891, to Will F. Hoyt for hopper and shoe for grain drills, and ask you what the advantage of the patented feature there was and whether or not you are familiar with the shoes of a similar form prior to the shoe of that patent?

Same objection.

A. I ask to amend my answer to the last question as I did not take sufficient notice of the patent No. 411,141, which is a wedge between the two shoe plates and did not at all affect the outward appearance of the shoe, but enabled us to use thinner shoe plates so that the outside surface of the finished shoe would have a more perfect "V" appearance than it could or would have without the plate; that is, if the plates were welded together without the wedge they would describe a "V" concave in its line, and to make a shoe without those curves would require very heavy plates.

As to patent No. 448,861 its advantages were substantially in using less steel stock for the shoe without detracting from the delivery of the seed. I never knew of a similar shoe formed of steel and believe shoes having that feature at the heel were made of cast iron previously and refer to patent No. 193,075, issued to T. Brennan, J. Taylor, and J. T. Lyman, July 17th, 1877.

The patent referred to by the witness is offered in evidence with the request that it be marked "Complainant's Exhibit Brennan, Taylor & Lyman patent."

Q. 9. You are familiar with the capacity of the Dowagiac Manufacturing Company's plant, are you?

A. Yes.

Q. 10. Calling your attention to the fact that the McSherry Manufacturing Company have, during the period from 1893 to 1900, manufactured about 3,500 grain drills in infringement of the Hoyt patent, and calling your attention to the fact that Brennan & Co., Southwestern Agricultural Works, have also manufactured from 10,000 to 12,000 shoe grain drills in infringement of the said Hoyt patent since 1893 and up to 1904; that there are other lesser infringments amounting, possibly, to 5,000 or 6,000 more grain drills during the same period, would ask you if, in your judgment, the Dowagiac plant was equipped to produce this additional number of shoe grain drills in addition to what it has already produced in the meantime.

A. It was, if the manufacture could have been distributed throughout the year anywhere nearly evenly, or it could readily have been made to have taken care of the entire production by changes or additions to take care of it without its being evenly distributed through the year.

Q. 11. The changes or additions which it would require were within the capacity of the Company and equipment?

A. They were.

Q. 12. I call your attention to patent No. 492,802 of March 7th, 1893, to Will F. Hoyt, which relates to a feed device for grain drills. What is the essential feature of that feed device, as you understand it; that is, what is there of novelty from what you know of such devices?

A. A spring to hold the feed cylinder and feed cut-off in contact instead of a key passing through the shaft in contact with the end of each.

Q. 13. The function of the spring was to hold these parts in good operating contact?

A. Yes, that is the material difference between the feed as shown in this patent and the feed as theretofore made.

Q. 14. Please state then, whether or not there was a distinct advantage in the matter of making sales after this improvement was put on the Dowagiac drill, and whether or not there was any increase in price on account of this improvement?

Last objection repeated as to the first part of the question.

A. There was some advantage in the working qualities of the drill by reason of the feed springs always keeping the feed row and cut-off in close contact. While the key without the spring worked equally as well when properly fitted and new, by continued use might wear the end of the feed roller and cut-off where the one revolves upon or against the other sufficiently to allow small seed, such as flax, to get between, but with the key properly fitted and the parts adjusted from year to year the spring would have no advantage over the key. There was no advance in price made owing to the use of this patented feature.

Q. 15. Will you please indicate the territory where the Kentucky Shoe drill held infringed came more particularly in competition with the Dowagiac Shoe drill?

A. In Minnesota, North Dakota and South Dakota.

Q. 16. Please state the reason for introducing the Michigan drill on the market about when it was intro-

duced. In this connection I remark that Mr. Munn testifies that the Michigan was a very cheap drill and that it was the custom of the drill manufacturers to introduce a cheap drill in addition to their regular line. Please take this phase of the testimony into consideration in making your answer.

A. Michigan Shoe drill was introduced about 1896 and was built and placed on the market by the complainant Company, for the purpose of meeting the competition of the Kentucky, particularly in price. It was not a very cheap drill in cost of construction but it appeared to us necessary at that time to either reduce the price on our regular construction, the "Dowagiac," about 10 per cent or to make a drill under different name which we could market at a price to meet the Kentucky in price. So we chose the latter course and called the special drill "Michigan."

Q. 17. Are you familiar with the defendants' machine called the Dakota grain drill, can you indicate about when it first appeared in the market? and produce if you can advertising relative thereto indicating so far as you are able the relation of such advertising matter to Dowagiac drills.

I suggest to the witness that he indicate the character of the drill in giving his answer.

A. The Dakota drill made by Brennan & Co. appeared in the Northwest about one year after we began making the Michigan. It was wood frame and cheaply finished but in general construction resembled the regular Dowagiac wood frame Shoe drill which the plaintiff Company marketed exclusively at that time under the name "Dowagiac." It was offered at a very low price as reported to me, but I do not know of any of them having been sold. I have here an advertisement showing a reduced fac-simile advertisement issued by Deere & Webber Co., Minneapolis, for the Dakota drill and our type matter on same sheet accompanying.

Objection is repeated; advertisement matter referred to is objected to as it seems to have been issued by complainant.

By the Master: The objection is over-ruled for the present but the question and answer will be excluded unless hereafter shown that the drill in question used the infringing device. The ruling as to the admission of the advertising paper is reserved.

Q. 18. Will you please indicate the character of the

spring structure and furrow opener on a Dakota drill?

A. The furrow opener was a shoe very much the same as used on the Dowagiac and Kentucky shoe drills. The spring pressure on the shoes was a bar pressure attached near the forward end of the draw bars and connected with the rear end substantially the same as the Kentucky, as shown by the cut in the reprint of the Deere & Webber Co. advertisement of the Dakota drill which I have referred to.

Complainant's Counsel: The advertisement referred to by witness hereby offered in evidence with request that it be marked "Complainant's exhibit re-production of Deere & Webber Dakota drill advertisement with Dowagiac advertisement."

The objection is repeated and it is understood that the objection applies to all testimony concerning this advertisement.

By the Master: Let it be tendered, objected to and the ruling reserved.

Q. 19. Please state the circumstances that induced you to issue this circular and the purposes for which it was issued.

Objection repeated. Objection sustained.
Complainant's Counsel: Exception noted.

Q. 20. Please state fully the character of competing drills and infringement of the Dowagiac patent that were manufactured and put on the market by Brennan & Co. and indicate fully all that was done to meet that competition, and in that connection indicate whether or not there was any cut in the price and produce any advertisements that you are able through the period of the infringement; show what was actually done by Brennan & Co., Southwestern Agricultural Works., the Defendant Co. in this suit.

Question objected to for reasons stated.

21. *By the Master:* Are you familiar with the device that was enjoined against by the decree in this case?

A. Yes, quite familiar with it.

22. *By the Master:* Was the same device used in the Dakota drill?

A. I think it was identical I saw several of them and my recollection is that the shoes, pressure springs and

their connections to the drill were identical in both structures; the material difference between the two was in the frame, one being wood frame, the other steel frame.

Objection over-ruled, but answer limited to such drills as embodied the structure enjoined against.

A. 20. They made and marketed a steel frame shoe drill called the Kentucky. They sold and advertised it as low in price. They later built a wood frame shoe drill called the Dakota as a still cheaper drill than the Kentucky. This Dakota drill I have seen several, and as I remember the construction, the shoes, springs and their connections to the frame were exactly the same as on the Kentucky. This Dakota drill was advertised and offered as a direct competitor with the Dowagiac which was at that time and had before that time been built only with wood frame. It was about the year that the Dakota was offered in the market that the Dowagiac was first built with steel frame. The advertisement of the Dakota drill referred to the Dowagiac so unmistakably and was so personal in its nature that we issued some advertisement along the same lines, but I believe that the sheet which I previously referred to was the only advertising of that kind which we put out in connection with that particular competition.

That part of the answer which purports to state the contents of advertising matter not produced is objected to as incompetent.

By the Master: The objection is sustained.

Q. 23. Will you please refer to this advertisement and indicate what parts of it are descriptive of the Dowagiac shoe drills manufactured under the patent in suit?

A. All allusions to another drill in the Dakota advertisement fit the Dowagiac drill as then made. The wood frame gear drive, springs in the feed referred to, pertain to the Dowagiac only because I was then familiar with all of the shoe drills being sold to any extent in the Northwest and there was none other than the Dowagiac in the market having wood frame, wheels with solid hubs and springs in the feeds.

Q. 24. Are you able to produce some of the advertisements of Brennan & Co. Southwestern Agr. Works during the period of infringement?

A. I am, some of them.

Q. 25. Please indicate the character of the advertisements you are able to produce identifying each one.

A. In the Farm Implement News, published at Chicago, dated Jan. 30th, 1896, page 3 appears an advertisement of Brennan & Co. showing a cut of complete machine, also of a shoe section with pressure wheel attached, and in the type matter "Prices low, quality high." The same advertisement appears in the same publication of Feb. 13th, 1896, and Jan. 16th, 1896. An advertisement in the Farm Implement News of Feb. 18th, 1897, shows a shoe with spring pressure and type matter, "The spring pressure device for the Kentucky shoe drill is the simplest, surest and best." In another, "No springs in the feed." In the Farm Implements of Nov., 1897, the page ad on page 31 with this type, "We will also supply to Kentucky agents only a wood frame drill at prices to meet competition of other wood frame drills.

The advertising matter referred to by the witness is offered in evidence with request that it be marked as "Exhibit Brennan & Co. advertising produced by Fowle." The particular pages referred to being the only parts desired as offered in evidence.

Q. 26. I call your attention to "Complainant's exhibit sample trade contracts with settlement sheets attached," and ask you if you are able to identify the documents to that exhibit as to the documents having anything to do with shoe grain drills made under the patent in suit?

A. Yes, they are original contracts between the Dowagiac Company and their customers, implement dealers, with settlement sheets attached, which settlement sheets are really record of original entry on our books. On the credit side of customers accounts. The book entries are made from these.

Q. 27. State approximately about how many such contracts there are all told of which these are samples for the infringing period.

A. A thousand or more.

Q. 28. You are familiar with the Kentucky drill that has been held to infringe, will you please state how it compares as far as weight is concerned, size of parts, with corresponding sizes of Dowagiac drill.

Objected to as incompetent.
Question withdrawn.

Q. 29. Please state whether or not you are familiar

with the different sizes of Kentucky drills so you can state how it compares in weight and size with corresponding size of Dowagiac drill?

A. Yes, 3 x 2 angle frame 4-ft. wheels, 1⅜ axle grain box, ⅞ wood poles and eveners of about the same size and material there can be but little difference in the weight.

Q. 30. How do they compare in size? Which is the heavier as to the parts which you have not enumerated, and what parts are substantially the same material other than those you have already mentioned?

A. I have named the heavier parts of the drills which correspond, there may be a difference in the weight of feeds draw bars for the shoes the cast ends for the grain boxes, but that would be but a few pounds on a drill. I have known the weight of both drills and they were nearly alike; I believe the Kentucky was some 20 lbs. heavier than 22 shoe drill (Dowagiac).

Q. 31. State whether or not to your knowledge any unpatented drill has been marketed in the Northwest in competition with the Dowagiac Shoe drill made under the patent in suit.

Objected to as irrelevant.
Objection over-ruled for the present.

A. No shoe drills. There have been a few hoe drills.

Q. 32. Calling attention to Complainant's exhibit "1899-1900 12-6 Hoe drill," please indicate what patented features, if any, are embraced in this construction of Hoe drill.

Same objection.
By the Master: Let it go in for the present.

A. The feed patents were all, this being the same feed patent that was on our shoe drills.

Adjourned until 9 o'clock in the forenoon of June 28th, 1905.

Met pursuant to adjournment, Wednesday, June 28th, 1905.

Present as before. Examination of Mr. Fowle continued:—

Q. 33. I call your attention to a duplicate Complainant's exhibit, List of Dowagiac agents offered at Minneapolis in evidence Dec. 14th, 1904, and ask you if you are

able to identify that list and if so to please state what it is?

A. This is a list of Dowagiac Mfg. Co. customers with whom it had contracts.

Q. 34. You recognize the names of those of the customers of the Dowagiac Company, do you?

A. Yes.

The list identified by the witness is offered in evidence with request that it be marked "Duplicate Complainant's exhibit list of Dowagiac Agents."

Q. 35. I do not note any of customers outside of the territory of the United States. Did you have customers outside of the United States?

A. Yes, we had some in Canada.

CROSS-EXAMINATION.

XQ. 36. Mr. Fowle, you testified in the Accounting against the McSherry Mfg. Co. who were held to infringe the same patent involved in this proceeding. Did you not?

A. I did.

XQ. 37. And in that case you testified that you brought out the Michigan drill to meet the competition of the McSherry Mfg. Co. Did you not?

Counsel for the complainant objects to the question of the witness as to the contents of the deposition which is in writing without producing same for the inspection of the witness.

By the Master: Let the objection be over-ruled.

A. No, I did not testify that the Michigan drill was produced expressly or particularly to meet the competition of the McSherry shoe drill. At the time the Michigan drill was produced both the McSherry and the Kentucky shoe drill were in active competition with the Dowagiac and both were offered in the market at a lower price than the Dowagiac. The Michigan was constructed along the lines of the Kentucky, particularly in the flat pressure spring ratchet lubs and in general feature so that the Dowagiac Co. could offer to the trade a price machine to meet the offer of the manufacturers of the Kentucky drill and head off the inroad which Brennan & Co. were making on the shoe drill trade in the Northwest largely on account

of the price, which in my opinion it did to quite an extent, accomplishing that and also to some extent met the price competition of the McSherry shoe drill so that my answer as to the McSherry to the extent stated in this answer is correct.

XQ. 38. I have here a copy of your deposition in the McSherry case from which I quote as follows: —

> "Q. 65. Was anything done to supply a cheaper machine or a machine of less cost to meet the price on infringing machines in the market including among others the McSherry Shoe drill?
>
> "A. Yes, we built a shoe drill for that purpose which we called the Michigan and sold it at a lower price than we did our Dowagiac shoe drill."

and ask you if this statement was made by you at that time?

A. I think that it was, because it is true, while the Michigan shoe drill served to meet all priced competition to some extent, it was built by the plaintiff company more particularly to meet the competition of the Kentucky shoe drill, the name Michigan was used not only as the State in which it was built resembling the Kentucky in that respect, but the lettering on the grain box was unusually large for a grain drill, and stenciled on with yellow paint the same as the Kentucky, and as before stated flat bar pressure springs were adopted similar to the pressure springs of the Kentucky. So in general appearance of the Michigan drill it was apparent for what competition in particular it was produced.

Q. 39. In the McSherry deposition referred to you are asked in Q. 4 to give the net contract price on shoe drills for the seasons of 1896, 1897, 1898, 1899, and to June, 1900, deducting all freight discounts and rebates allowed by the company. You give what purports to be the list price and the discounts and then make the following statement: —

> "This discount of 25 and 10 per cent from the list prices paid made the net subject to the 10 per cent cash discount as follows: 11 shoe, $43.88; the 13 shoe, $50.63; the 15 shoe, $57.38; 17 shoe, $67.50; 20 shoe, $77.63; and for the year 1896 the 22 shoe, $87.50; the 26 shoe, $97.88; for 1897, and thereafter the 22 shoe, $84.33; the 26 shoe, $94.50. These discounts also apply to the sales in what we call Madison, Wis., Minneapolis, Minn., territories covering

all of Wis. territory, Minn. except the portion adjacent to No. Dakota, No. Iowa, and S. Dakota, only that freight to Madison or Mpls. to be deducted from these list prices before the discounts are applied."

Do you remember to have testified in this way and were the facts therein true?

A. I do not recall the answer, but if made as read it was made from the contracts in our files, as to prices, etc., and if not correct in those respects it was an error in computation.

XQ. 40. Will you kindly look at this deposition and the prices therein stated and state whether or not you are willing to accept those prices as prices given by you at that time and as being correct unless you should later on further investigation change them?

The question is objected to as not proper cross-examination.

By the Master: I think he can answer whether the prices given by him in a former deposition were correct or not.

Complainant's Counsel: Please note my exception and the complainant insists that as to these answers the defendants make the witness their own.

A. I presume that they are correct as I understand it, but as stated they were made up from the contracts in file as I figured it, but there may be an error in my computations and before stating that they are correct as I understand it I will want time to refigure them.

XQ. 41. In this McSherry deposition you refer to certain contracts as supporting certain prices which you gave as follows: —

Spangler, of Mulhall, Okla. Terr.; Frank Way, of Chillicothe, Mo.;
J. H. Carey, of Adams, Minn.; Martin Jacobson, Minot, N. D.;

Do you find that any of these contracts are in the list of contracts which you have identified here?

A. No. I do not see any of them here, but can supply you the contracts or exact copies on the same printed form if in case the originals are already on file in some other case.

XQ. 42. In your deposition in the McSherry case you state that the settlement sheet with Frank Way showed a charge in settlement for one 8 Shoe Drill by note $36.00, subject to 5 per cent discount if paid Jan. 1st. In later answer you state that note was discounted and that the net amount received was $34.20. From the settlement sheet J. H. Carey, of Adams, Minn., dated May 1st, 1900, you show settlement for 2 17 shoe drills at $58.32 each, 1 20 shoe drill at $66.63, 1 26 shoe drill at $81.80 cash. The settlement sheet of Martin Jacobson, Minot, N. D., May 1st, 1900, shows settlement 3 16 shoe, 3 20 shoe, and one 22 shoe by notes entirely. The 16 shoe at $68.25, 20 shoe $82.25, 22 shoe at $89.75, notes being subject discount 5 and 10 per cent if paid 30 days from date. In later answer you testify that these notes were discounted at that rate leaving the net amounts for the 16 $58.35, for the 20 $70.52, and the 22 $76.73. Are these figures correct?

Complainant's Counsel: I suppose the objection in ruling will apply to this whole line of examination and I wish my notice that the defendants make the witness their own also apply.

A. I can not say from memory. They were made up from the records which I can refer to and verify.

XQ. 43. How long would it take you to verify these figures?

A. Probably an hour or two. If requested I will do it as soon as possible.

XQ. 44. Will you kindly look them up and have them ready this afternoon.

A. I will.

XQ. 45. Will you name some of your largest dealers in the Northwest.

A. Wood Bros., Millbank, S. D., Kirk & Allen, Jamestown, N. D., F. H. Retzlaff, New Ulm, Minn., Collins & Murphy, Grand Forks, N. D.; J. R. Jones, Hankinson, N. D.; Stralo & Co., Casselton, N. D.; Berg Bros., and their successors at Cooperstown, N. D.

XQ. 46. Will you kindly look over the contracts which you have produced here as typical and see how many contracts, if any, you find with the parties you have just named, or any of them?

A. I do not find any of them but I notice one with E. J. Webber, of Fergus Falls, Minn., one of our largest customers, and I believe those I have mentioned show the same kind of contract, prices, and terms as the one with E. J. Webber.

All that part of the answer except " I do not find any of them " is objected to as not responsive.

By the Master: Let the objection be over-ruled.

XQ. 47. These contracts which you have identified here are contracts with implement dealers. Is that right?

A. Yes, with implement retail dealers.

XQ. 48. How many dealers are represented in the 62 contracts which you have identified? Will you kindly name them in your answer?

A.

Huber & Thompson, Meltonville, Iowa	1
Noble, Alva, Okla	3
Klostermeier, Atchison, Kans	2
Wisner, Athens, Mich	1
Wagoner, Antigo, Wis	2
Melheim, Butterfield, Minn	1
Weiling & Noble, Beaver Dam, Wis	1
LeRoy, Alexander, Minn	2
Roeder, Boonsville, Mo	1
Walker & Williams, Boscoeville, Wis	1
Scholler & Co., Carthage, Mo	1
Walbert & Timberlake, Columbus, Kans	2
Schmidlekoffer, Calvary, Wis	1
Webber, Dubuque, Kans	1
Wallack Bros., Effingham, Kans	1
Webber, Fergus Falls, Minn	10
Murphy, Hitchcock, S. D	1
Wedum & Co., Kensington, Minn	3
Marose, Knowles, Wis	1
Mead & Brenner, Kingfisher, Okla	1
Copeland, Moline, Kans	1
Warham, Manhattan, Kans	2
Wood, Minneapolis, Minn	2
Schmitt & Co., New Glarus, Wis	1
Marsh, Norton, Kans	1
Schulz & Co., Portage, Wis	1
Sanders H. & I. Co., Pleasanton, Kans	1
Wallerstedt, Perry, Okla	1
Schmidt & Schmidt Bros., Reed City, Mich	3
Seifert, Reedsburg, Wis	1
Maxon, Stratford, Wis	3
Schenider Bros., Salen, S. D	1
Schmitz, Stewart, Minn	2
Shattuck, Sedgwick, Kans	1
Warner Bros., So. Bend, Ind	5
Warner & Sons, So. Bend, Ind	2

I find 64 contracts and settlement sheets numbered by the Master from 1 to 62 inclusive. Two without numbers.

By the Master: I find that in numbering and initialing the contracts and settlement sheets 2 were stuck together and omitted. I now number them 63 and 64.

Witness Continues: Representing 35 agencies with the number of contracts each agent shown after their name and address as above list.

XQ. 49. I find attached to the Huber & Thompson settlement No. 55, a schedule analysis of the settlement apparently. Can you tell in whose handwriting that is?

A. No, I can not. I judge however it was made in this office by the paper and ruling.

XQ. 50. I note in your McSherry deposition that referring to an account with Huber & Thompson, of Meltonville, Iowa, dated May 1st, 1900, you say it refers to 14 shoe drill, one 18, and three 20 shoe drills and grass seeder attachment. Do you understand that this is the same one referred to?

A. Yes, that is correct, one grass seeder attachment for one of the 20's.

XQ. 51. You also give net price received for the seed drills as follows: the 14 shoe, $46.98; the 18 shoe, $60.50; the 20 shoe, $66.58. I will ask you if these figures compare with the memo. or analysis of this account attached thereto?

A. Yes, they agree with the figures in the net cash column of the memo. attached to Huber & Thompson's settlement sheet No. 55. Exhibit.

Recess to 1:30 P. M.

XQ. 52. This memo. or analysis purports to show as I understand it the list price, the freight allowance, the various discounts, and the actual net cash settlements in this particular settlement. Is that right?

A. The first price column shows the list price, the second column the list price less 25 per cent, the third column the freight on each of the different size drills, the fourth column the time price which is the list price less both the 25 per cent and the freight. The fifth column shows cash discount and the sixth column the net cash price which is the list with 25 per cent, the freight, and the cash discount deducted.

XQ. 53. Is it possible to get the actual cash received

by your Company for shoe drills in all cases from the settlement sheets alone?

A. No, it is not.

XQ. 54. Mr. Hoyt in his last deposition in this case agreed to furnish me with a file of your catalogues, which he just handed me yesterday. Will you please look these over and mark as far as you are able to do the year or season on each of these catalogues that it is supposed to represent or was issued for?

A. Yes, I will and do.

XQ. 55. I notice in the marking that you omit the years 1889 and 1890, 92, 93, and 94, 97, and 1901. Were there catalogues issued for these years?

A. I don't know. There has been some two or three times since 1890 when the same catalogue was used two years and I can't tell now which years they were, and in marking the years on these catalogues I have done so from memory and from the construction of the machines as shown by the cuts. They may not all be marked correctly, but I do not think any of them are marked more than one year out of the way. Those having the dates printed on are correct.

The 14 catalogues marked by the witness are requested to be marked for identification by the Master with his initials and the year for which the catalogue is supposed to have been issued.

XQ. 56. I note that some of these contracts you have identified are with parties in Missouri, Kansas, and Oklahoma Territory. What territory would these parties be included in?

A. In what we call the Kansas City territory.

XQ. 57. How did the freight allowances in this territory compare with that in Minneapolis territory?

A. I believe carload rate from Dowagiac to Kansas City was 42c. per cwt., from Dowagiac to Minneapolis, 29c.

XQ. 58. I note in a number of these settlements in the territory named freight allowances, for instance in the settlement with N. Webber, Dubuque, Kans., freight allowance $9.00. I suppose these represent correct allowances made for freight in Kansas City territory. Do they?

A. Yes, at that time, 1899.

XQ. 59. I only referred to that particular one as a sample which I happened to pick up and I suppose that any freight allowance appearing in any of the contracts

in that territory would represent the correct freight allowance at that time. Do they?

A. Yes, if they correspond with the contract.

XQ. 60. You had some contracts with jobbers did you not, in addition to those retail agents?

A. With only one jobber that I can recall during the infringing period. That was Baker & Hamilton, San Francisco, Cal.

XQ. 61. Did you have a contract with a firm at Dallas, Tex.?

A. Not for shoe drills.

XQ. 62. In your sales to jobbers you gave 50 per cent off the list f. o. b. Dowagiac. Did you?

A. We gave 50 per cent off from our list form 85D which is the list on contract N. Webber, Dubuque, Kans., dated Aug. 8th, 1899, exhibit Master's No. 11. This discount was for net cash for delivery f. o. b. cars, Dowagiac.

The noter is requested to copy in the list from the contract referred to on shoe drills: —

WOOD FRAME.

" 11-6 a	$65.00
13-5 a	75.00
13-6 a	75.00
15-5 b	85.00
15-6 b	85.00
17-6 c	100.00
20-5 c	115.00
22-6 d	125.00
26-5 d	140.00

STEEL FRAME.

8-8 a	56.00
10-7 a	60.00
12-6 a	70.00
14-6 b	80.00
16-6 c	95.00
20-6 d	115.00
22-6 d	125.00

" a " indicates 2-horse hitch; " b " indicates combination 2 or 3-horse hitch; " c " indicates combination 3 or 4-horse hitch; " d " indicates 4-horse hitch.

XQ. 63. Could you state about how many travelling men you had employed during the period covered by the Accounting and how they were distributed as to territory?

A. It varied considerably from year to year and

during portions of each year. During most of that period we had a general agent on the territory at each of the distributing points Madison, Wis., Minneapolis, Minn., Fargo, N. D., Kansas City, Mo., and part of the time Sioux Falls, S. D., and Dayton, O. Also one at Dowagiac. They sometimes had assistants or helpers who did contracting and settlement work with them.

XQ. 64. In what years did you employ the most travellers?

A. I think between 1895 and 1902 or 1903.

XQ. 65. During this period can you tell about what proportion of the traveling men were employed in the Northwest and what proportion in the other territories?

A. Not very closely, but I will say two-thirds of them were employed in the Northwest including Wisconsin.

XQ. 66. You had one grain drill which you sold as low as $20.00 in lots of five did you not?

A. Yes, that was an 8-hoe specially built, called the Steel Age, sold without eveners or neck yoke and without shifter device. It was sold at that price up to about 1898 or 1899, since when the price has been $22.50.

XQ. 67. In answer to Q. 2, you give it as your opinion that it is more equitable to distribute the selling expense on the basis of the cost per machine rather than pro rata by value. Do you mean to include in that cash discounts, bad debts, and the general overhead expense?

A. My answer was as to Dowagiac drills and I am satisfied that is true and that it has cost the Dowagiac Mfg. Co. more per drill to sell the small size drills than it has to sell the large size ones.

Question reread.

A. Continues: I do not understand in what way discounts, bad debts, etc., figure in the selling expense. I had reference to the placing of goods on the market and getting settlement for them.

XQ. 68. Then in giving this opinion you did not intend to include in this expense the items that I have named in my last question?

A. No, the question as I understood it did not cover anything else but the selling and settlement work.

XQ. 69. Have you made the investigation to verify the figures quoted from your McSherry deposition and in reference to certain contracts which do not appear here?

A. I have not, but I will do so now.

RDQ. 70. Complainant's Counsel: Also kindly pro-

duce the contracts and settlement sheets as to additional dealers referred to in cross-examination.

At this point the deposition of this witness is suspended to enable him to look up the matter referred to.

Testimony resumed.

XQ. 71. Have you looked up the matter as to the correctness of the prices named?

A. I have in regard to questions 39 and 40, and I find the prices correct as stated, subject to the freight deductions named in the contracts. Q. 42, I find the correct amount in the Adams settlement $81.81 instead of $81.80 for the 20-6 Shoe. The Jacobson settlement $70.33 instead of $70.52 for 22-6 and $76.75 for the 22 instead of $76.73 as named in the question. With these corrections the figures named in Q. 42 are correct as shown by the settlement sheets.

RE-DIRECT EXAMINATION.

RDQ. 72. I requested you to produce contract and settlement sheets referred to on the cross-examination and also the contracts and settlement sheets of some of the leading agents which you named and will ask you what of those contracts and settlement sheets you have been able to produce, and if you have not been able to produce certain of them, explain why?

A. I have here contract with Berg Bros. & Co., of Cooperstown, N. D., and settlement sheet for the business of 1899. Also contract and settlement sheet of Stephen Collins, of Grand Forks, N. D., for 1899. Also contract and settlement sheet of Kirk & Allen, Jamestown, N. D., for 1899. Also contract and settlement sheet John R. Jones, Hankinson, N. D., for business of 1899. Also contract and settlement sheet F. H. Retzlaff, New Ulm, Minn., for 1898. Also contract and settlement sheet Wm. Strehlow & Son, Casselton, N. D., for 1895, which was the last year we did business with the latter. In regard to RXQ. 70, I find that the Jacobson, of Minot, N. D., contract and settlement sheet was filed in the McSherry case Nov. 7, 1901. Also that the J. H. Carey, Adams, Minn., contract and settlement sheet and the F. M. Spangler, Mohall, Okla., contract and settlement sheet were filed in the McSherry case Nov. 8th, 1901. I have here the contract and settlement sheet of Frank Way, Chillicothe, Mo., for 1899.

Complainant's counsel offers the contracts just produced by the witness in evidence with request that they be marked "Complainant Exhibit Dowagiac Trade contracts and settlement sheets produced by Fowle," and requests the Master to mark the same for identification, and states that as these form a part of the permanent records of the Dowagiac Co. that the plaintiff have leave to retain them in its possession, producing them at any hearing and also producing them for inspection by the counsel at any reasonable time they may be required.

Mr. Will F. Hoyt being recalled as a witness deposes and testifies as follows:—

Q. 1. I call your attention to a schedule just offered in evidence here by Mr. McVicker, the same being the cost of material, labor, and supplies, etc., of hoe drills. He states that you supplied him with the estimates for making up that schedule. I ask you to state whether or not that is the fact?

A. I supplied the estimates as stated by Mr. McVicker.

Q. 2. Those estimates were prepared by you in a similar manner to those you supplied for the shoe drills, I take it?

A. They were.

Q. 3. In the matter of distributing the general expenses of the Dowagiac Manufacturing Co. and of the selling expenses of the Dowagiac Manufacturing Co. there has arisen from Mr. Staley's examination and consideration of the matter a question as to whether those expenses would be most equitably distributed according to the value or selling price of the machines, or pro rata an equal amount to each machine no matter what its size or character. I will ask you, from your knowledge of the business, which of these methods in your judgment would be the more nearly correct and equitable and according to the actual fact in the matter?

A. From my knowledge of the business I should consider that pro-rating the amount on the basis of the number of machines sold would be the proper way. The average size of our shoe drill construction is of the larger sizes, say running about 17 or 18 marker drill, and that the bulk of our construction consists of those sizes, while the balance of our construction—say, in hoe drills, broadcast seeders, and disc drills, runs largely to the smaller sizes, averaging about an 11 marker, so it seems to me

in proportioning this in this way we strike an equitable way of doing it.

Q. 4. Of which sizes have the large number been manufactured; the larger size of shoe drill or the smaller size of the other construction?

A. The larger quantity has been manufactured of the larger shoe drills.

Q. 5. Please indicate the patented features if any on the hoe drill on which the schedule is made.

A. There were no patented features aside from that on the feed, which was the same as on the shoe drill.

CROSS-EXAMINATION BY MR. STALEY.

XQ. 6. In answer to Q. 3, do you include in the expenses there referred to cash discounts and bad debts?

A. No, sir, I do not.

XQ. 7. In the matter of general expense do you think the same amounts would apply to a machine that took a man one day to build as would be applied to a machine which took one man ten days to build, for instance?

Question objected to as based on hypothesis which could not apply to any circumstances in the case, and is therefore immaterial.

By the Master: Let the objection be over-ruled.

A. Yes, so far as the general selling expenses are concerned.

XQ. 8. Have you had any practical experience in working out systems for the distribution of expenses as applied to costs in manufacturing, and are you familiar with the modern methods employed for this purpose?

A. As I have testified before, we in our manufacturing operations do not employ a modern cost system for the reason as I have explained, that our line of manufacture was confined exclusively to grain seeding machinery and we have not found the necessity of entering into an intricate cost system. No, I have had no experience.

Q. 9. Under the head of general expense as I understand the matter under discussion here, is included salaries, interest, insurance, taxes, etc.; assuming that your factory runs for definite time, all of these expenses are capable of being figured at so much a day for running time. Are they not?

A. They would average a certain amount per day, yes.

Q. 10. If you employed a certain definite number of men during the time it would also be possible to deter-

mine the average wage per day to your men per day. Would it not?

A. Yes.

Q. 11. Assuming that your general expense amounted to the same per day that your productive labor amounted to, then for every dollar's worth of labor you would have a dollar's worth of general expense. Would you not?

A. The proportion of general expense could be proportioned to the amount of labor if desired.

XQ. 12. In that case a machine which required twice as much labor as another machine would necessarily add twice as much general expense as the other machine, would it not?

A. If the matter was figured down to the basis of single machines. Yes.

XQ. 13. In your former deposition you agreed to furnish me a list of your catalogues which you handed to me yesterday and in the list I note that years 1889 and 1890, 92, 93, 94, 97, and 1901 are missing. Could you supply copies of catalogues for those years?

A. No sir, our files are exhausted.

WILL F. HOYT.

Mr. Otto Schmalzried being recalled as a witness deposes and testifies as follows: —

Q. 1. I have requested you to prepare a condensed statement of the profit and loss account of the business of the Dowagiac Manufacturing Company. Have you prepared such a statement?

A. I have.

Q. 2. Will you please produce the same and briefly indicate how much the same has been condensed; about how much space is taken up in the books for each year?

A. I have prepared such a statement which I hand you herewith, with the caption "Profit and Loss statement of Dowagiac Manufacturing Company." The average space occupied on the face of the various ledgers from which this statement has been drawn is about four pages for each year.

The statement prepared by the witness is offered in evidence with the request that it be marked "Complainant's Exhibit, Profit and Loss Statement of Dowagiac Manufacturing Company."

Q. 3. Please indicate the entire period covered and what the showing of the books is for that period, and I will ask you to indicate what it shows from the year

1892 up to June 13th, 1904, the injunction in this case being issued in June, 1904.

A. This statement with the close and including the fiscal year of June 30th, 1892, to the close and including the fiscal year of June 30th, 1904, shows a profit of $675,069.90, subject to a loss including the fiscal year ending June 30th, 1894, of $157,533.32, which makes the gain during the period mentioned, $517,536.58. The statement shows gain for the following years: —

June 30, 1892	$43,548.69
June 30, 1893	114,717.67
June 30, 1895	2,430.59
June 30, 1896	61,066.47
June 30, 1897	74,979.14
June 30, 1898	165,728.96
June 30, 1899	126,757.67
June 30, 1900	60,414.67
June 30, 1902	25,426.04

During the years ending June 30th, 1894, 1901, 1903, and 1904, was a loss of $16,224.12, $93,903.80, $41,691.01, $5,714.39, respectively.

Q. 4. I have requested you to prepare a statement showing the extent of the bad debts of the Dowagiac Manufacturing Company during this period, from 1891 up to 1903. If you have prepared such a statement please produce it and state the method adopted by you in preparing this statement.

A. I have prepared such, which I herewith hand you, and in order to ascertain the losses arising out of each year's business it was necessary to examine the entire profit and loss account and group each item under the year in which it originated, with the following result: —

Losses originating out of sales made in 1892,..	$2,364.78
Losses originating out of sales made in 1893,..	10,650.80
Losses originating out of sales made in 1894,..	3,762.78
Losses originating out of sales made in 1895,..	4,977.45
Losses originating out of sales made in 1896,..	4,766.33
Losses originating out of sales made in 1897,..	3,415.13
Losses originating out of sales made in 1898,..	1,619.49
Losses originating out of sales made in 1899,..	1,791.22
Losses originating out of sales made in 1900,..	2,012.87
Losses originating out of sales made in 1901,..	3,386.01
Losses originating out of sales made in 1902,..	1,321.45
Losses originating out of sales made in 1903,..	703.87

Which makes a total loss on bad debts of $40,772.18.

Met pursuant to adjournment Thursday, June 29th, 1905, same present as before

CROSS-EXAMINATION BY MR. STALEY.

XQ. 5. In the Profit and Loss account in the ledger for 1904, under the date June 30th, 1904, I notice figures $330,093.80 as a balance up to that date. Does this represent the book balance as shown on the face of the ledger up to that period, June 30th, 1904?

A. Yes.

XQ. 6. Will you kindly state what the book balance was in the Profit and Loss Account on June 30th, 1891?

A. It shows a credit of $16,541.62.

XQ. 7. The amount given for June 30th, 1904, was also a credit on the Profit and Loss Account. Was it not?

A. Yes.

XQ. 8. And these balances in the profit and loss account were carried forward each year from June 30th, 1891, to June 30th, 1904, as a credit to Profit and Loss.

A. Yes.

XQ. 9. So that the difference between these two items would represent the net amount of profit between the dates named as appears simply from the Profit and Loss Account without other consideration. Would it not?

A. No it would not. There have been dividends paid from time to time on the stock which were charged up to the Profit and Loss Account.

XQ. 10. Can you tell me what the amount of purchases were in 1901, as appears by the stock and material merchandise account?

A. $56,513.71.

XQ. 11. Will you also give me the inventories at the beginning and the close of this year 1901?

A. At the beginning, July 1st, 1900, the inventory amounted to $234,934.09; at the close of the fiscal year, June 30th, 1901, the inventory amounted to $172,298.77.

XQ. 12. Did the stock and material purchases as given above include the freight or not?

A. No, it did not.

XQ. 13. The freight appears in what is called the stock and material freight account?

A. Yes.

XQ. 14. I note in your answer 4, that you do not include any bad debts for 1904?

A. That is correct and the reason for this is that the bad debts have not yet become in evidence.

XQ. 15. Whatever bad debts should develop in this period would increase the loss mentioned in your answer (3) would it not?

A. It would.

XQ. 16. Referring to your answer 9, except for the dividends paid would the difference between the balances named for June 30th, 1891, and June 30th, 1904, represent the profit as shown by the Profit and Loss account for this period?

A. Yes, it should show it.

XQ. 17. Do you know what the dividends were during that period?

A. No, I do not now recall them, I left them out.

XQ. 18. I went over with you the books from 1895 to 1904, since the last question and find in those years that the dividends were charged in a special dividend account but that the dividends previous to this time were not discovered in any special account and would require considerable investigation to determine them. The dividends which we found in the years named are as follows:—

1895	$5,000.00
1896	5,000.00
1897	5,000.00
1898	12,500.00
1899	25,000.00
1900	25,000.00
1901	25,000.00
1902	30,000.00
1903	12,500.00
1904	5,000.00

and ask you if these are correct as appeared on the accounts which you examined?

A. Yes.

RE-DIRECT EXAMINATION BY MR. CHAPPELL.

RDQ. 19. Will you please ascertain the dividends as appear in the remaining Profit and Loss accounts and have a statement of them copied at the end of this deposition, by the year?

A. I will as far as they appear.

The noter is requested to copy the Profit and Loss statement ending year 1904, produced by the witness:—

" June 28th, 1905

Profit and Loss Year, July 1, 1903, to June 30th, 1904.

6|30|04	Expense, ...	$81,470.25	
	Live stock & Fur. & fixtures, ...	133.22	
	Machinery & Tools,.....	6,604.52	
	Fire loss, Aberdeen, S. D., ...	526.00	
			$88,733.99
	Cr.		
	Mdse. Gain, ...		83,019.60
			$5,714.39

Complainant's Counsel desires to offer in evidence certified copy of the opinion and order of Judge Lochren relative to the deposition of C. C. Webber in this cause with request that it be marked: "Complainant's Exhibit Judge Lochren's opinion and order."

A. As requested in RDQ. 19, I have investigated the Profit and Loss accounts and find no dividends paid other than those stated in XQ. 18.

Witness States: Upon reviewing my deposition I find my answer to XQ. 9, is not complete, in that I should have stated that besides dividends charged to Profit and Loss Account there were also bad debts amounting to $40,772.18, of which a schedule had heretofore been made by me and which will appear on page 52 of schedule in evidence, marked "Dowagiac Accounting Schedules."

.....

By Mr. Chappell: Mr. Staley, before leaving for Springfield, requested the Complainant's counsel to have Mr. Schmalzried make a statement regarding the accounts relative to freight, and Mr. Schmalzried by request makes the following statement.

By Mr. Schmalzried: That commencing with the year July 1st, 1893, two separate accounts were kept of freight paid, one called "Merchandise freight" to cover freight allowances to dealers, the other called "Stock & Material freight," to cover freight on material received at Dowagiac prior to the date named the freight was charged direct to merchandise without reference as to whether it was merchandise freight or stock and material freight; this, however, can be determined on the face of the journal entries.

Mr. Wylie C. Margeson, called as witness on behalf of

Complainant, after having been duly sworn by the Master deposes and testifies as follows, in response to interrogatories by Mr. Chappell:—

Q. 1. Please state your name, residence, age, and occupation.

A. Name, Wylie C. Margeson, age 30 years, residence Kalamazoo, Mich., occupation Attorney-at-law.

Q. 2. Please state your educational qualifications and experience that would qualify you to make computations and comparisons in this accounting, stating same very briefly.

A. I am a graduate of the Academic department of Harvard College, where I specialized in mathematics and physics; I am a graduate from the department of law of the University of Minnesota.

Q. 3. You have been requested by me to take the schedules, depositions and trade contracts that have been offered in evidence in this case and make certain computations and schedules and in that connection I asked you to supervise the reproducing of the schedule that had been submitted in evidence. Please state what you have done in the behalf indicating the method you have pursued and produce a copy of the work which you have accomplished.

A. I took the schedules which were introduced as exhibits by the Complainant in this case, the said schedules having been prepared by the expert McVicker, and using these schedules as a working basis, also certain schedules prepared by McVicker and introduced in the case of Dowagiac Mfg. Co. vs. McSherry Mfg. Co., and which have since been introduced in this case, together with certain schedules prepared by Mr. Schmalzried, which have been introduced in this case, I prepared a number of schedules dealing with the sales price, proceeds of implements sold, tables of co-efficients as to repairs free, cash discounts allowed, bad debts, tables as to general and selling expenses, profits on shoe and hoe drills, and certain tables as to costs of various sizes of hoe drills.

All exhibits, schedules, as prepared by Mr. McVicker and Mr. Schmalzried heretofore referred to, were reproduced under my supervision and these reproductions carefully compared with the original schedules. These schedules which were so reproduced under my supervision are entitled as follows:—

McVicker Working papers.

Exhibit 1 cost of various parts of shoe drills.

Exhibit 2 proportionate cost of various sizes of shoe drills.
Miscellaneous exhibits:—
" A " General and selling expenses, etc.
" B " schedule of price of material.
" C " schedule of price of material.
" D " schedule of implements sold 1891-1903.
" E " schedule of weights.
Sales Michigan Drills.
Schedule of general and selling expenses.
Final Summary.
Summary 12-6 hoe drill 1899-1900.
Profit and Loss statement and bad debts.

With the data given in the foregoing schedules I prepared the following schedules, which schedules were also reproduced under my supervision.

Schedule 1, Net sales price.
Schedule 2, Proceeds of implements sold.
Schedule 3, Co-efficient of repairs free, cash discts. and bad debts.
Schedule 4, Average expense per machine.
Schedule 5, Co-efficients percentage per dollar.
Schedule 6, Comparative table of general and selling expenses.
Schedule 7, Proportionate cost of various sizes of shoe drills.
Schedule 8, Profit on shoe drills, expense pro-rated per machine.
Schedule 9, Profit on shoe drills, expense pro-rated per value.
Schedule 10, Profit on shoe drills, expense properly distributed.
Schedule 11, Proportionate cost of various sizes of hoe drills, 1899 to 1900.
Schedule 12, Proportionate cost of various sizes of hoe drills 1891-1903.
Schedule 13, Profit on hoe drills, expense pro-rated per machine.
Schedule 14, Profit on hoe drills, expense pro-rated per value.
Schedule 15, Profit on hoe drills, expense properly distributed.

I omitted to state that in the preparation of the foregoing schedules I made use of certain trade contracts of the Dowagiac Mfg. Co., which contracts have been introduced in this case.

All the schedules above mentioned as having been prepared by me were reproduced with certain explana-

tory notes given at the beginning of each respective schedule indicating how results contained therein were obtained.

All the schedules hereinbefore mentioned were reproduced by the photo-lithographing process from typewritten copies of the original schedules, and bound together here in one book entitled " Dowagiac Accounting Schedules."

By Complainant's Counsel: The book of schedules referred to by the witness is offered in evidence with request that it be marked: " Complainant's Exhibit Dowagiac Accounting Schedules."

Objected to on the same grounds and for the same reasons urged in objection to the original schedules furnished by the witness McVicker, and insofar as they appear to be mere copies of other exhibits already filed, objected to as secondary and incompetent.

Same ruling as to the objection heretofore made.

CROSS-EXAMINATION BY MR. STALEY.

XQ. 4. I notice in connection with schedule 10 you make a distribution of expense which you call " Expense properly distributed; " who determined as to whether or not this was the proper distribution?

A. The term " Expense properly distributed " was used in contra-distinction to the other two terms used as to the distribution of expense, namely: " Expense pro-rated per machine " and " Expense pro-rated per value." The term " Expense properly distributed " indicates a combination of pro-rating the expense of these two latter methods just mentioned. The term was used by me simply for want of a better one and because to my mind the method used for distributing the expense was more equitable than in either of the other two methods.

Complainant's counsel desires to remark that these various computations identified by the witness are such as might very well have been made and identified in a brief; however, as they are elaborate in their character, it was thought best not to impose on the Master and the Court the burden of making such calculations, and that the calculations be supported by the oath of the witness who is competent to make them. That is the only reason

for offering these elaborate schedules in this way. It was not the purpose to offer this witness as an expert to give his opinion as to whether the one way was more equitable than another, and this appears from the fact that the computations have been made in different ways for the purpose of facilitating such comparisons. Counsel therefore objects to the question of the witness further than to the method he has pursued and the accuracy of his work.

Defendants' Counsel suggests to Complainant's Counsel if he desires to testify in the case to take the stand and be sworn. The witness is on the stand to testify to this work and any statements of counsel as to how it was prepared or what it discloses is entirely irrelevant.

Objection is over-ruled.
Exception noted by Complainant's counsel.

XQ. 5. Then so far as these schedules or any of them or the explanatory notes which you have introduced in connection with them purport to state which is proper or represents a more equitable method, it is the mere expression of your personal opinion. Is that right?

A. As stated in my previous answer, the word " properly " represents what might be termed as expressing my personal opinion. The word was used for want of a better one.

XQ. 6. What experience if any have you had in working out cost systems or becoming familiar with the modern methods of distributing expenses in determining costs in manufacturing establishments?

A. I have had no experience as a public or expert accountant, my ability to make computations having been derived from an academic training of four years besides the experience as a teacher of mathematics for a period of two years. I have had no experience in working out cost systems in manufacturing establishments.

XQ. 7. As I understand it you are an assistant to Mr. Chappell in his office. Is that right?

A. Yes.

XQ. 8. The general expenses of a concern including salaries, interest, insurance, taxes, and such other items as have been included here in general expense could be determined accurately at the end of the year and could readily be distributed at an average amount per day. Could it not?

A. It would seem quite clear that if the sum total

of the general expense could be determined it would simply be a matter of computation to get the daily average expense for that year.

XQ. 9. And if there were a certain number of men employed for a definite number of days and you had the total amount paid to these men for their productive labor it would be an easy matter to determine the average wages of them would it not for the productive labor?

A. Yes.

XQ. 10. Suppose the amount per day for expense should equal the amount per day paid out for productive labor, then for every dollar's worth of productive labor you would have a dollar's worth of general expense. Would you not?

A. If there were no other expenses other than what was paid for productive labor your query would be answered in the affirmative.

XQ. 11. That being true would you say that a machine which had twice as much productive labor in it as another machine should be charged with no more general expense than the one with the less labor?

This is objected to as not proper cross-examination by Mr. Chappell. The witness has not been called upon to qualify as an expert along this line and has absolutely disqualified as an expert along this line, and it would seem therefore the testimony is immaterial and a useless burden put upon the record.

Objection over-ruled and exception noted by Complainant's counsel.

Complainant's counsel gives notice to Defendants' counsel that in pursuing this line of examination he makes the witness his own.

A. If you were trying to determine the average wage rate per day paid for productive labor the amount of general expense entering into the two machines would not be considered at all, but if a determination as to the relative amount of productive labor entering into the two different machines were made, then with certain limitations the larger machine should be charged with more general expense than the smaller one.

WYLIE C. MARGESON.

Complainants' Exhibit, Judge Lochren's Opinion and Order.
A. G. RONALD, *Master.*

June 29, 1905.

UNITED STATES CIRCUIT COURT,

WESTERN DISTRICT OF KENTUCKY.

DOWAGIAC MANUFACTURING CO.,
vs.
BRENNAN & CO., et als.

Motion, Decision and Order in matter of Deposition of C. C. Webber; before Judge Lochren at Mineapolis, Minnesota, in U. S. Circuit Court.

UNITED STATES CIRCUIT COURT.

WESTERN DISTRICT OF KENTUCKY.

DOWAGIAC MANUFACTURING CO.,

Complainant,

vs.

BRENNAN & COMPANY, SOUTHWESTERN AGRICULTURAL WORKS, A. G. MUNN, HARRY M. BRENNAN, AND W. G. MUNN, AND MATTIE WELLER.

Defendants.

In the matter of deposition before the Master in Chancery holding a session in the Federal Building, Minneapolis, Minnesota, in the above entitled cause.

Mr. Fred L. Chappell appeared for the Complainant, and Mr. Louis K. Hull for the Defendants, and for C. C. Webber as Special counsel.

This cause having come on to be heard before Hon. William Lochren, United States District Judge for the District of Minnesota, sitting in Chambers as the United States Circuit Court, for the District of Minnesota, Fourth Division, on the 23rd day of March, 1905, on motion of the Complainant for an order compelling the witness, C. C. Webber, to answer the questions heretofore propounded to him in the matter of the above entitled accounting, where he appeared as a witness before Albert G. Ronald as a Master in Chancery, which questions he the said C. C. Webber declined to answer, as appears from the deposition taken December 14th, 1904, before said Master, the same having been certified to this Court by the said Master at the request of counsel for the Dowagiac Manufacturing Company; and for a further order of this Court requiring the said witness, C. C. Webber, to furnish the names and addresses of the dealers, agents or others to whom his company, the Deere & Webber Company, had sold Kentucky Shoe drills, such as have been held to be an infringement in the case of The Do-

wagiac Manufacturing Company against Brennan & Company, The Southwestern Agricultural Works; A. G. Munn; Harry M. Brennan; W. G. Munn, and Mattie Weller, now pending in the United States Circuit Court for the Western District of Kentucky; said questions having been objected to at the hearing before said Master by Louis K. Hull, appearing specially as counsel for C. C. Webber, the same having been certified to this Court to be passed upon and decided by this Court; and the same having been argued by Mr. Fred L. Chappell, counsel for the Dowagiac Manufacturing Company, and by Louis K. Hull, special counsel for the witness, C. C. Webber; and the Court having been fully advised in the premises, the said objections as shown by the record on the hearing before said Master are hereby sustained, and the motion here presented by the Dowagiac Manufacturing Company is hereby denied.

March 23, 1905,

WILLIAM LOCHREN,
Judge.

UNITED STATES CIRCUIT COURT.

WESTERN DISTRICT OF KENTUCKY.

DOWAGIAC MANUFACTURING CO.,
Complainant,

vs.

BRENNAN & COMPANY, SOUTHWESTERN AGRICULTURAL WORKS; A. R. MUNN, HARRY M. BRENNAN, AND W. G. MUNN, AND MATTIE WELLER.
Defendants.

In the matter of taking the deposition of C. C. Webber, before the Master in Chancery holding a session in the Federal Building, in the City of Minneapolis, State of Minnesota, in the above entitled cause.

Before Hon. William Lochren, United States District Judge, for the District of Minnesota, at Chambers, in the Federal Building, Minneapolis, Minnesota, March 23rd, 1905, at ten o'clock A. M.

Mr. Fred L. Chappell appeared for the complainant, and Mr. Louis K. Hull for the defendants, and as special counsel for the witness, C. C. Webber.

Motion for an order compelling the witness, C. C. Webber, to answer certain questions propounded to him by counsel for complainant before a Master in Chancery, at a hearing held in the City of Minneapolis, State of Minnesota, and for an order requiring the said C. C. Webber to furnish the names and addresses of certain dealers, agents or others to whom the Deere & Webber Company have sold or furnished certain grain drills, bought by Deere & Webber of Brennan & Company, which have been held to be an infringement of the complainant's patents.

After hearing counsel for the respective parties for and

against the motion, the Court rendered the following decision, orally:—

The cases which have been referred to by Mr. Hull, or at least some of them, go to the extent of holding that where there are State statutes providing for examination of parties to the action before trial,— in the Federal Courts, at any rate, — the right of the defendants to keep their books and their business secret will be protected; as such examinations are not competent evidence under the Federal Statutes.

I am not impressed with the argument of the defendants, that they have the right to keep secret and refuse to testify concerning matters that are contained in their books and which relate to their own business affairs, and keep silent, when the matters inquired about are material and competent evidence in the case on trial between the parties.

Of course, if these matters are immaterial or incompetent, then they ought to be protected from having them examined into by strangers, especially on behalf of competitors in business. That such is the correct rule is a matter about which I am satisfied; and if that is the case now presented to me, I shall hold accordingly.

This is a suit brought by the Dowagiac Manufacturing Company against Brennan & Company and others, in which judgment has been rendered in favor of the complainant, sustaining the patent, adjudging an infringement, and ordering an accounting for the purpose of ascertaining the damages. This hearing before the Master must, it seems to me (though I will hear counsel further if desired), be with reference only to the sales made by the infringers, Brennan & Company, or other defendants; and I do not see how the inquiry can be extended beyond that to the action of some one else who may be also an infringer, merely because he bought the infringing implements of Brennan & Company, and has afterwards disposed of them himself. In order to make Brennan & Company responsible, the infringement must be the action of that Company. If Brennan & Company have sold to Deere & Webber any of these infringing machines, that Company is responsible for the infringement that occurred by the making of that sale, and for the damages to the complainant growing out of that sale.

But if further infringements and further damages have arisen from the acts of Deere & Webber after obtaining the implements from Brennan & Company, my impression is that Brennan & Company are not responsible for the acts of Deere & Webber with respect to the implements which they bought of Brennan & Company, but that Deere & Webber would be

responsible themselves for their own acts, if there be any responsibility for what was done by them.

This perhaps covers most of the questions presented. There has been no attempt to bring in the books mentioned by the witness by subpena duces tecum; and in all probability this Court would not order a subpena duces tecum to issue, to show the transactions of Deere & Webber with reference to these implements which they had bought of Brennan & Company, after such purchase; for the reason that Brennan & Company would not be responsible for such subsequent acts of Deere & Webber, and therefore, the books would be immaterial and incompetent.

If I am right, it would equally be immaterial and incompetent for the witness, even if he had personal knowledge of the matter, and did not have to refer to the books, to testify as to what had been done by Deere & Webber with reference to the implements which that company had received from Brennan & Company. After the purchase, the goods belonged to Deere & Webber; and Brennan & Company had no further responsibility about them. That is the way it strikes me.

After further argument by counsel on both sides, the Court proceeds further:—

I think that I have not made myself clearly understood, or else counsel have not spoken to the point which I wished them to discuss; and that is, that the defendant is only responsible for what the defendant did, and not for what others did, that was injurious to the patentee or the complainant.

In the case cited from the United States Supreme Court, the Court states that the improved pumps of the patentee had displaced all other prior pumps, and that the infringer, I suppose by the employment of some equivalent of the improvement which the patentee had put upon the pumps, made a pump which was useful, and one which was salable, and that the defendants themselves sold these pumps to the persons who were using them; that is, they employed a former salesman or agent of the patentee and put him in that territory to sell their pumps,so that what they did was done by their own servants and agents directly and therefore, every pump that was sold and put into a well was sold and put in by the defendants themselves, directly. Supposing that instead of that, they had sold the pumps in job lots to some dealer at a place which was near by (whether it was near by or not is immaterial), and that dealer had sold these pumps to the owners of wells directly; in that case, the manufacturing infringer or seller would be responsible to the patentee for the profits made on the sales of these pumps to the dealer; but what the dealer did with the pumps, it

seems to me, would be an infringement on the part of the dealer alone.

It does not strike me that there is any force in the suggestion that because an infringement is a tort, everybody who is connected with any sale of the infringing implement is responsible for all the torts that may be committed in connection with every subsequent sale of the same implement. If an infringer makes grain drills which are an infringement of the patent of another, and sells them to a jobber, he has no more to do with them. He is then responsible for the damages which accrue from such sale, and may be required to answer for the profits he has made, as far as he has had anything to do with the drills; but what the jobber may do with them is something beyond that. The jobber may take them into a territory that has been occupied, or attempted to be occupied by the patentee, in which the latter already has an agent, and where they may take the place of what the patentee has supplied, and therefore give ground for the rule of damages that has been suggested, beyond simply being held to an accounting for profits that are actually made by the infringers.

Now in this case, inquiry is proper as to what has been done by Brennan & Company. If they have made sales to Deere & Webber, or to any one else, that is material matter; and evidence in relation to such sales is entirely competent, and as to what they obtained on such sales. But to go beyond that, and attempt to find out what Deere & Webber got for those infringing articles, and how they have disposed of them is not competent; for I think that Brennan & Company are not answerable or responsible for what Deere & Webber have done, and that an inquiry in relation to that is not competent or material.

If Brennan & Company lowered the price in supplying wholesale dealers or others, that is a matter for which they may be responsible; but if Deere & Webber lowered the price in selling to dealers or farmers, that is a matter for which Deere & Webber are alone responsible.

It strikes me this way. In case in every sale by Brennan & Company to Deere & Webber, by such sale Brennan & Company lost all dominion over the machines that were so sold to Deere & Webber. They did not have any control over them any longer to direct whether or not they should be sent to a territory that had been occupied by the complainant particularly. Deere & Webber could send the machines there or elsewhere; wherever they were selling machines, or wanted to sell them; and Brennan & Company would not be responsible whether the machines were sent to one place or to another; they had no further control over them.

Of course, when Brennan & Company sold these machines

they sold them to the jobber with the expectation that the jobber would sell them to the consumers. But they did not deal direct with the customers, nor could they dictate as to what territory the machines should be sent. Therefore, it seems to me that the line of inquiry as to what territory these implements were sent by Deere & Webber is immaterial as far as Brennan & Company are concerned.

I think I shall have to sustain the objections.

Counsel for complainant then and there excepts to the ruling of the Court.

UNITED STATES OF AMERICA,
DISTRICT OF MINNESOTA,
FOURTH DIVISION. } SCT.

I, HENRY D. LANG, Clerk of the Circuit Court of the United States for the District of Minnesota, do hereby certify that I have carefully compared the foregoing paper writing....with the original thereof, which is in my custody as such clerk, and that such copy is a correct copy of such original....and of the whole thereof, in the cause therein named.

Witness my hand as Clerk, and the seal of said Court. Done at my office in Minneapolis, Minnesota, this 3rd day of April, A. D., 1905.

(SEAL.)

HENRY D. LANG,
Clerk.

By MARGARET C. NOONAN,
Deputy.

Master's Summons.

UNITED STATES CIRCUIT COURT.

FOR DISTRICT OF MINNESOTA, FOURTH DIVISION THEREOF.

IN EQUITY.

DOWAGIAC MANUFACTURING COMPANY,
Complainant,

vs.

SMITH & ZIMMER,
Defendants.

In pursuance of the authority and direction contained in an order made in the above cause, by the Hon. Wm. Lochren, judge of said court, dated on the 4th day of May, A. D. 1901, I, the undersigned, Master of this court in said cause, do hereby summon you, Ernest F. Smith and Luppo W. Zimmer, copartners as Smith & Zimmer, the defendants, to appear before me at my office, at 635 Lumber Exhange, in the city of Minneapolis, State of Minnesota, on the 3d day of January, A. D. 1901, at the hour of 10 o'clock in the forenoon of that day, to attend a hearing before me, the said Master, of the matter in reference in the said cause, to be had by virtue of the order of the said court of and for said District of Minnesota, of Minnesota, Fourth Division, Hon. Wm. Lochren referred to.

That you then and there render a statement of account showing the number of shoe grain drills that you have purchased from Selby, Starr & Company, the amount you have paid for the same, and what your contract was for the same, and that you also render a statement as to where grain drills have been sold by you, to whom so sold, the sizes and prices thereof, the discount and other contracts made by you with agents relative to the same. Hereof fail not at your peril.

Dated the 30th day of December, A. D. 1901.

S. R. CHILD,
Master in Chancery, District of Minnesota, Fourth Division.

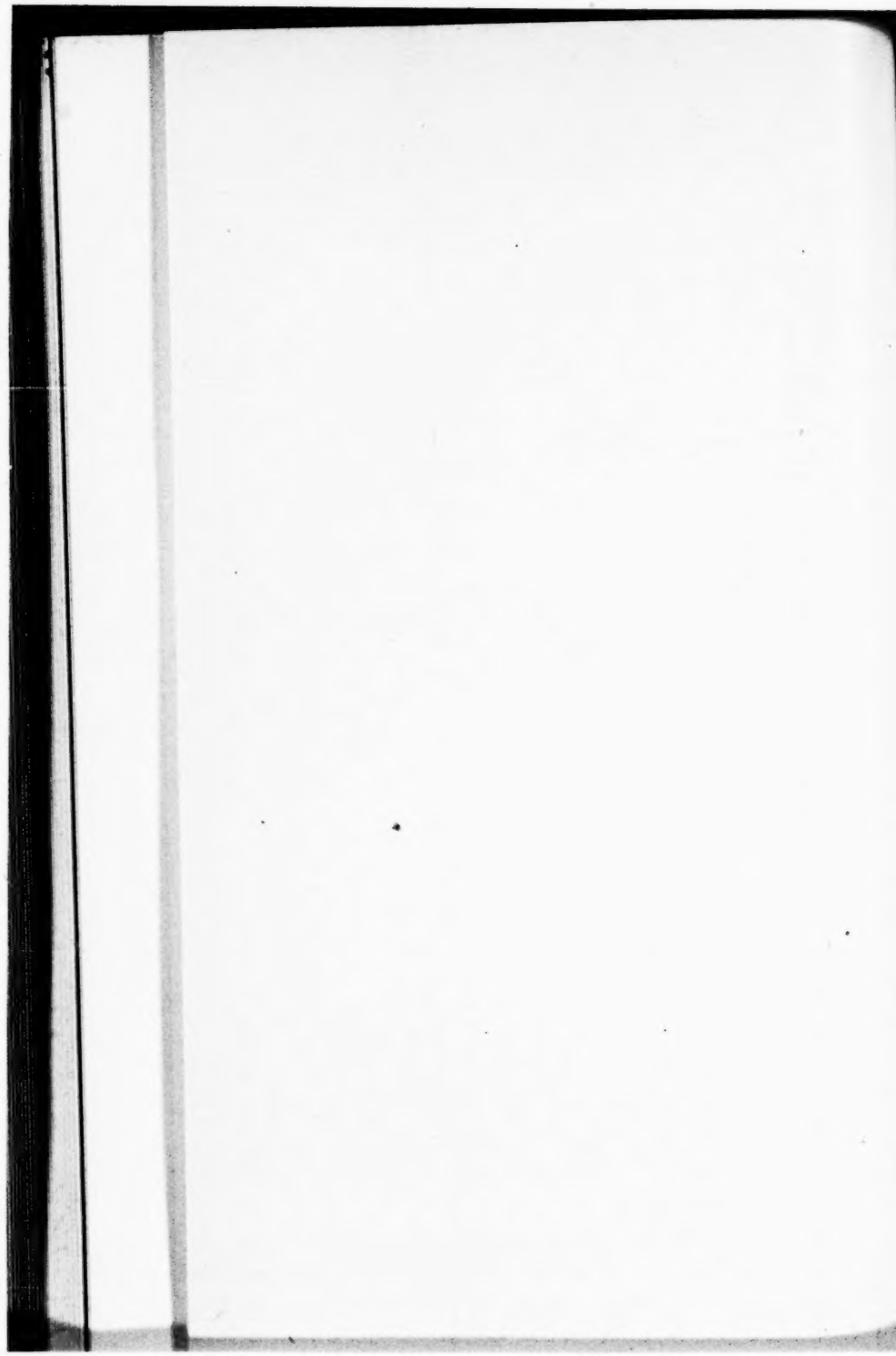
EXHIBIT A.

LIST OF PARTIES SOLD PEORIA DRILLS IN 1899, AND NET RECEIPTS OF SAME.

Date.	Name.	Shoes. 13	17	20	22		Rec'd.
12-12-98	W. E. Powell & Co.		1				$59.22
12-12-98	Geo. Campbell		1				64.25
12-12-98	Lerom Bros.		1				70.00
12-12-98	John E. Paulson & Bro.		1				70.00
12-12-98	O. A. Jacobson				1		81.00
12-12-98	F. W. Reynolds				1		85.00
12-12-98	McEwan & Dougherty				1		82.95
12-12-98	Hamilton Bros.				1		76.50
12-12-98	Fred Carpenter				1	Ret'd	
12-12-98	J. E. Myra				1		70.77
12-12-98	F. M. King & Co.				1		85.00
12-12-98	Thompson Bros.				1		85.50
12-12-98	S. L. Farnsworth				1		85.00
12-12-98	O. H. Johnson				1		76.50
12-12-98	McManners & Cooper				1		68.00
12-12-98	Jacob Kern				1		75.70
12-12-98	James Thompson				1		85.00
12-15-98	Runck & Heunmann				1		76.50
12-15-98	C. M. Anderson		1				63.00
12-15-98	O. H. Howe				1		66.11
12-15-98	Claggett Bros.		1				59.23
12-15-98	A. W. Stone				1		71.50
12-15-98	E. J. Moore				1	Ret'd	
12-15-98	Fergus Iron Works Co.				1		80.00

12-15-98	M. A. Benedict		1				
12-15-98	F. W. Webb				1		79.90
12-15-98	Works & Eastman				1		71.91
12-15-98	John Young				1	Ret'd	
12-15-98	Heaney Bros.		1				59.00
12-15-98	A. Parker				1		85.00
12-27-98	Brockman & Tasker				1		85.00
12-27-98	Olof Nelson		1				63.00
1- 5-99	J. P. Nelson				1		85.00
1-11-99	J. G. Koller		1				56.00
1-14-99	Wm. Mass		1				67.48
1-14-99	Englebert & Schmidt		1			Ret'd	
1-23-99	H. Campbell		1				70.00
1-23-99	O. A. Fossom		1				59.85
1-23-99	J. H. Spelling		1				59.40
1-23-99	John Arrowsmith				1		
1-23-99	Anderson & Nelson				1		77.00
1-23-99	A. R. Swanson				1		65.00
1-24-99	W. E. Dahl				1		73.59
1-26-99	E. A. Harris		1		1		127.33
1-27-99	Thompson & Mead	1	1	2	2		688.52
1-31-99	A. J. Arnson		1				57.22
2- 1-99	E. R. Glenn				1		70.40
2- 7-99	A. W. Stone		5		7		803.00
2- 7-99	F. W. Webb		10	6	4		1,240.00
2- 7-99	McIntire Bros.		3	1	2		140.00
2-13-99	H. G. Pritchard		3				140.00
2-15-99	J. Dudman & Co.				1		72.00
2-17-99	J. G. Koller				1		71.00
2-18-99	Henry Luth				1		85.00
2-20-99	Works & Eastenson		3	4	1		449.57
2-21-99	Dale & Cuscinger		1				58.70
2-23-99	Peterson & Higgin				1		85.00
2-23-99	Rue, Peterson & Rue		1				60.00
2-23-99	H. D. Oaks		4		1		317.59
2-23-99	A. H. Hewett			1			50.00
2-24-99	Peterson & Thompson		1				59.40
3- 1-99	Runck & Heinman		6	[illegible]	1		549.90
3- 1-99	Englebret & Schmidt	1	5	[illegible]			396.13
3- 2-99	Bugbee, Goss & Vincent		1				59.68
3- 4-99	G. S. Maynard		2				140.00
3- 6-99	P. J. Fay & Son		1				58.80
3- 7-99	Fergus Iron Works	3	2				312.50
3- 7-99	Botts & Wegge	1					57.50
3- 8-99	C. M. Anderson		10	8			1,231.20
3- 8-99	F. W. Reynolds				1		85.00
3- 9-99	M. J. Jacobson		1		4		410.00
3- 9-99	A. H. Hewett		2				118.44
3- 9-99	Peterson & Thompson		1	1	1		215.20
3-10-99	Jorgen Boe		2	2			264.24
3-10-99	Paul C. Jacobson		1				59.62
3-10-99	J. P. Nelson				2		170.00
3-11-99	Paul C. Jacobson		2	1			185.28
3-11-99	Allen Heinner		5	5	10		1,361.35
3-13-99	W. J. Heaney			1			68.00
3-15-99	T. J. Moore		3	1	4		629.00
3-15-99	Greene & Leaman		2	2	5		619.27
3-16-99	Olof Nelson		8				477.46
3-16-99	M. H. Kiff			1	3		334.00
3-16-99	Warner Bros.		2		8		820.00
3-16-99	W. E. Dahl		3		6		626.60
3-16-99	Wolf & Torgenson	1					50.00
3-16-99	F. M. King & Co.			2	3		413.00
3-17-99	J. H. Spelliscy			1	1		104.00
3-17-99	T. R. Glynn			1			54.40
3-17-99	John Arrowsmith		4	6			
3-20-99	E. R. Whightman			1			71.50
3-20-99	White Rock Lumber & Hdwe. Co.		1	1	1		234.00
3-20-99	Hamilton Bros.			20	15		1,002.40
3-20-99	Jacob Kern			1	10		[illegible]

2-23-99	Rue, Peterson & Rue		4			
2-23-99	H. D. Oaks		4		1	317.59
2-23-99	A. H. Hewett			1		50.00
2-24-99	Peterson & Thompson		1			59.40
3- 1-99	Runck & Heinman		6		1	549.90
3- 1-99	Englebret & Schmidt	1	5			396.13
3- 2-99	Bugbee, Goss & Vincent		1			59.68
3- 4-99	G. S. Maynard		2			140.00
3- 6-99	P. J. Fay & Son		1			58.80
3- 7-99	Fergus Iron Works	3	2			312.50
3- 7-99	Botts & Wegge	1				57.50
3- 8-99	C. M. Anderson		10	8		1,231.20
3- 8-99	F. W. Reynolds				1	85.00
3- 9-99	M. J. Jacobson		1		4	410.00
3- 9-99	A. H. Hewett		2			118.44
3- 9-99	Peterson & Thompson		1	1	1	215.20
3-10-99	Jorgen Boe		2	2		264.24
3-10-99	Paul C. Jacobson		1			59.62
3-10-99	J. P. Nelson				2	170.00
3-11-99	Paul C. Jacobson		2	1		185.28
3-11-99	Allen Heinner		5	5	10	1,361.35
3-13-99	W. J. Heaney			1		68.00
3-15-99	T. J. Moore		3	1	4	629.00
3-15-99	Greene & Leaman		2	2	5	619.27
3-16-99	Olof Nelson		8			477.46
3-16-99	M. H. Kiff			1	3	334.00
3-16-99	Warner Bros.		2		8	820.00
3-16-99	W. E. Dahl		3		6	626.60
3-16-99	Wolf & Torgenson	1				50.00
3-16-99	F. M. King & Co.			2	3	413.00
3-17-99	J. H. Spelliscy			1	1	104.00
3-17-99	T. R. Glynn			1		54.40
3-17-99	John Arrowsmith		4	6		
3-20-99	E. R. Whightman			1		71.50
3-20-99	White Rock Lumber & Hdwe. Co.		1	1	1	234.00
3-20-99	Hamilton Bros.			20	15	1,002.40
3-20-99	Jacob Kern			1	10	745.16
3-21-99	A. R. Swansen & Co.			1	1	110.00
3-21-99	John H. Spelliscy			1		68.00
3-25-99	Stickney & Dalquist			1		75.00
3-25-99	D. M. Smith			2	4	485.00
3-27-99	R. A. Kirk		8		8	1,150.00
3-27-99	A. R. Swanson & Co.			1		65.00
3-27-99	John H. Spelliscy		1			59.40
3-30-99	Rue Peterson & Rue		1	3	1	253.00
3-30-99	Hamilton Grain and Implement Co.				4	299.54
3-30-99	Rue Peterson & Rue				1	71.91
3-31-99	O. C. Hoskins & Co.		1			70.00
3-30-99	T. R. Glynn		4		1	291.84
3-31-99	Wolf & Torgeson	1				49.00
3-31-99	Englebert & Schmidt		1			60.00
3-31-99	Thielman Bros.				1	80.00
3-31-99	Rue Peterson & Rue				1	71.91
3-31-99	M. T. Gill				2	234.00
3-31-99	John Dudman & Co.				12	934.00
4- 4-99	John H. Spelliscy				1	85.00
4- 4-99	Dale & Chrissenger			3	3	323.00
4- 4-99	J. F. Fink	1	1			100.37
4- 4-99	Hamilton Bros.	1				49.00
4- 6-99	Edgar Wardwell		5			291.87
4-10-99	Edgar Wardwell		2	To be Ret'd		
4-11-99	M. J. Jacobson		1			70.00
5- 1-99	B. J. Barloch				2	143.00
		10	138	84	169	$25,028.57



TESTIMONY OF LUPPO W. ZIMMER.

At my office, at 10 o'clock A. M., February 13, 1902, plaintiff appeared, by H. H. Potter, its attorney, and Luppo W. Zimmer, appeared for the defendants, and the following proceedings were had.

LUPPO W. ZIMMER being duly sworn, upon an examination by Mr. Potter, testified as follows: —

Q. This statement which you have filed here, Mr. Zimmer, how was it made up?

A. By a careful examination of our books.

Q. Have you a set of books showing all sales made by you of these infringing machines, giving names of person to whom sold, and their addresses, together with the selling prices of the machinery sold?

A. Yes, sir.

Q. And those books are here in the city, are they, and within your power to produce?

A. I think so.

Q. This examination that you speak of, resulting in the statement, was not made by you personally, was it?

A. No, sir.

Q. By whom was it made?

A. Our head bookkeeper and shipping clerks.

Q. What are their names?

A. Willis McDonald, Wm. Schmitz, and Lawrence Merrill.

Q. The books of which you speak, what are they, describe them.

A. Ledgers, invoice files, receiving files, I know were examined. I don't know that I could include all of them from memory.

Q. You, of course, can not state of your own personal knowledge, how full and complete was the examination made by the bookkeeper?

A. No; except I gave instructions to make it complete.

Q. Could you furnish and file with the referee within a few days, the addresses of these parties contained in this list, which you will file?

A. Yes, sir.

Q. How long a time would you want to do so?

A. Three or four days.

Q. You have indorsed on this statement which you have filed the following: "From one-third to one-half of the 1899 drills listed above and below were fitted with springs differing materially from the spring enjoined."

Now you have no records or means of determining how many of those drills were so equipped with non-infringing springs?

A. No, sir.

Q. Well, in what respect do you claim that those springs, that is, the non-infringing springs, differ from the spring enjoined?

A. The construction of the springs and the attachments were radically different.

Q. Would it be possible for you to produce a sample spring which would belong to this class of springs which you say are non-infringing upon the further investigation of the accounting?

A. I do not know.

The plaintiff now requests the court to order the witness to add to the statements filed by him the addresses of each of the parties given in that statement, to whom drills were sold, within the time to be specified, and further that an order be made requiring the defendants, Smith & Zimmer, to produce and submit to the inspection of the plaintiff and to an examination by an expert accountant of all their books in any way relating to the purchase or sale of the infringing machines, the same to be for the services of this accounting.

The plaintiff gives notice of an application for an order requiring the defendants, Smith & Zimmer, to produce for examination their books of account relating to the purchase sale of the non-infringing machinery, and asks that the hearing be adjourned by the master to a specified date, for the purpose of hearing said application.

Mr. Child: We stand adjourned for one week, at 10 o'clock A. M.

Motion for Order to Produce.

IN UNITED STATES DISTRICT COURT.

STATE OF MINNESOTA.

DOWAGIAC MANUFACTURING COMPANY,
Plaintiff.

vs.

ERNEST F. SMITH AND
LUPPO W. ZIMMER,
Defendants.

MOTION FOR ORDER TO PRODUCE BOOKS AND PAPERS.

Comes now the plaintiff herein, and upon the attached affidavit asks the court to require the defendants to produce for the us of plaintiffs, as evidence on the further hearing of the accounting in this case, all the books, papers, and records in the possession of or under the control of the defendants, relating to the questions at issue before the master on this hearing, and especially all such books, papers, and documents bearing upon the question of the sales of machinery infringing upon the patents owned by plaintiff as found by the court in this case, and this application is based upon the affidavit hereto attached and made part of this motion.

H. H. POTTER.
Attorney for Plaintiff.
806 Guaranty Loan Building, Minneapolis, Minn.

STATE OF MINNESOTA,)
COUNTY OF HENNEPIN.) ss.

H. H. Potter, being duly sworn, deposes and says that he is one of the attorneys for the plaintiff in the above-entitled

action; that the defendants filed in this court with the master, S. R. Child, a pretended statement, claiming that the same showed the sales by them of machinery infringing upon the patents belonging to plaintiff, as found by the court in this case, but the said statement is unverified, and was not made by the witness Zimmer, who has appeared and testified that he had no personal knowledge of the correctness of the same, and that the same was made by his clerks from books in his possession; said witness Zimmer has further testified that the defendants have in their possession in the city of Minneapolis books, papers, accounts, and documents showing the entire dealings of the said defendants with all parties to whom sales of such infringing machinery were made.

Affiant avers that the production of such books, accounts, and documents is necessary in order that they may be used upon the trial of this case for the purposes of the accounting, and that it is impossible for plaintiff to proceed without such books and documents.

Affiant further alleges that it will be necessary to have the same examined by an expert accountant, and abstracts of the same made, to be used in connection with said documents, in order to facilitate the reference thereto.

H. H. Potter.

Subscribed and sworn to before me this 14th day of February, 1902.

(SEAL.)

Kathryn Driver,
Notary Public, Hennepin County, Minnesota.

Order by Master to Produce.

UNITED STATES CIRCUIT COURT, FOR DISTRICT OF MINNESOTA.

FOURTH DIVISION THEREOF — IN EQUITY.

DOWAGIAC MANUFACTURING COMPANY,
Complainant.

vs.

SMITH & ZIMMER,
Defendants.

On this 20th day of February, 1902, the above-entitled action came on for hearing before S. R. Child, Master in Chancery, the defendant appearing in person and by his counsel, Henry J. Fletcher, and plaintiff appeared by Mr. Potter, his counsel, and the application of the plaintiff for the production of the books and papers of defendants and the appointment of an expert accountant came on for determination.

IT IS ORDERED, That on or immediately after the 1st day of April, 1902, the defendant's books of account be subjected to an examination as to all matters contained therein pertinent to the questions involved in this accounting, such examinations to be made by Mr. ————————, as expert accountant, at the office of the defendants, in the city of Minneapolis, the results of such examination to be reported to the court at as early a day as possible, not later than April 10, 1902, and that at the order of the Master, said books shall be produced at the hearing of this case, for use on such hearing as evidence, and that a further hearing of this case is continued to a time to be hereafter fixed by the Master, at least six days notice thereof to be given to both parties.

By the Court.

S. R. CHILD,
Master.

UNITED STATES OF AMERICA.

DISTRICT OF MINNESOTA, FOURTH DIVISION.

DOWAGIAC MANUFACTURING CO.,
Complainant,

vs.

SMITH & ZIMMER,
Defendants.

IN AN ACCOUNTING BEFORE SAMPSON R. CHILD, SPECIAL MASTER.

STIPULATION.

It is hereby stipulated and agreed by and between the parties hereto, through their respective counsel, that the testimony in this accounting may be taken before any Notary Public, and the depositions of witnesses may be taken on a typewriter, or taken stenographically and afterward reduced to typewriting, as counsel may mutually agree upon.

FRED L. CHAPPEL,
Counsel for Complainant.

J. S. STARR,
Counsel for Defendants.

June 19, 1905.

Deposition of Fred W. Hart.

CIRCUIT COURT OF THE UNITED STATES.

DISTRICT OF MINNESOTA, FOURTH DIVISION.

IN EQUITY.

DOWAGIAC MANUFACTURING CO.,
Complainant.

vs.

ERNEST F. SMITH, AND
LUPPO W. ZIMMER,
Defendants.

IN THE MATTER OF ACCOUNTING BEFORE SAMPSON R. CHILD, SPECIAL MASTER.

Testimony taken on behalf of the complainant, pursuant to consent of counsel of both parties, at the office of the Dowagic Manufacturing Co., Dowagiac, Michigan, beginning at 3:00 o'clock in the afternoon, June 27, 1905.

Present: Fred L. Chappell and W. C. Margeson, on behalf of complainant.

Julius S. Starr, on behalf of defendants.

This testimony is taken in the absence of the master, by consent of counsel.

FRED W. HART testified and deposed as follows, being first duly sworn, in response to interrogatories by Mr. Margeson.

Q. 1. Please state your name, age, residence, and occupation.

A. Fred W. Hart; age, 25; residence, New York City; expert accountant.

Q. 2. Please state your qualifications and experience that enable you to testify as an expert accountant.

A. My experience extends over five years, during which time I have been engaged in investigations and examinations

of books of manufacturing concerns, of various different kinds.

Q. 3. Your attention is called to schedules marked respectively, "Summary of Sales of Peoria Shoe Drills, by Messrs. Selby Starr & Co., to parties other than Smith & Zimmer, as per the company's books at Peoria, Ill."; "Smith & Zimmer Commission Account, 1901"; "Summary of Sales of Peoria Shoe Drills by Messrs. Selby Starr & Co. to Smith & Zimmer, of Minneapolis, Minn., as per company's books, at Peoria, Ill."; "In re accounting between Dowagiac Manufacturing Co. and Smith & Zimmer, of Minneapolis, Minn."; and "List of Parties Sold Peoria Drills in 1899, and Net Receipts of Same." State which of these schedules were prepared by you.

A. The first four schedules were prepared by me. The remaining one was given me to verify.

Q. 4. State fully what each of the schedules as prepared by you represent.

A. I was furnished with the list of parties sold Peoria drills by Messrs. Smith & Zimmer during the years 1899, 1900, 1901, and was requested to verify the same from the Smith & Zimmer books at Minneapolis, and also to examine the books of Messrs. Selby Starr & Co., of Peoria, Ill., manufacturers of the drill, to ascertain exact number of these infringing shoe drills supplied to Messrs. Smith & Zimmer.

> Defendants' counsel objects to that part of the answer in which the witness designates shoe drills as infringing shoe drills, he assuming by his answer that the drills mentioned in the schedule contain lists of the drills that were found to infringe by Smith & Zimmer.

This list rendered by Smith & Zimmer I checked up with their books at Minneapolis, as far as possible, but was unable to verify any of the figures for the year 1900, as their books were not available for that period. I have scheduled the errors found, and submit a "final statement," which shows the final corrected figures after allowances were made for such errors and omissions. The investigation at Peoria proved the Smith & Zimmer list to be reliable. I listed all drills sold by Selby Starr & Co. to Smith & Zimmer, from January, 1897, to September, 1902, and this list shows them actually to have received, *less* machines returned by them, 966 drills billed to them for $57,924.75; but Messrs. Smith & Zimmer state that they only dealt in this machine with the infringing device, from December, 1898, to March, 1901. Therefore, the figures gleaned from the books at Peoria, would show that they were *supplied* with 589 machines of a value of $34,837.50 during that time. As Smith & Zimmer state that they *sold* 598 machines during this time, the figures show a small difference of nine drills, doubt-

less being drills which they had purchased prior to December, 1898, and which they state were not infringing machines. In addition to the drills sold directly to Messrs. Smith & Zimmer by Selby Starr & Co., the company also sold a number of drills to different parties, mostly *through* Smith & Zimmer. These drills I have listed separately, and they amount to 184 machines, of the value of $12,606.10, mostly sold in the years 1901 and 1902. A copy of the Smith & Zimmer's commission account, as per the Peoria books for the years 1901 and 1902, shows that 111 machines in 1901, and 58 machines in 1902, or a total of 169 machines, of the above-mentioned 184 machines, were sold *through* Messrs. Smith & Zimmer, on which Smith & Zimmer took commission. These, then, are the four lists referred to which I have prepared.

1. "Statement or List of Sales, showing the reconciliation of the figures rendered by Smith & Zimmer and the figures as their books show them."

2. Summary of Sales of the "Peoria" Shoe Drills, by Selby Starr, to Smith & Zimmer, for the years 1897-1902.

3. Summary of the Sales of "Peoria" Shoe Drills, by Messrs. Selby Starr & Co., to parties other than Smith & Zimmer, for the years 1898-1902.

4. Copies of Smith & Zimmer commission account as per the Peoria books, for the years 1901-1902.

Q. 5. By whom were you requested to review the books of Messrs. Smith & Zimmer, at Minneapolis, Minn., and the books of Messrs. Selby Starr & Co., of Peoria, Ill?

A. By Mr. Chappell, counsel, as I understand, for the Dowagiac Manufacturing Co., the complainant herein.

Complainant's counsel offers in evidence the schedules hereinbefore referred to in Q. 3, and desires that they be marked "Complainant's Exhibits, Summary of Sales of Peoria Shoe Drills, by Messrs. Selby Starr & Co., to parties other than Smith & Zimmer, as per the company's books at Peoria, Ill."; "Smith & Zimmer Commission Account, 1901"; "Summary of Sales of Peoria Shoe Drills, by Messrs. Selby Starr & Co., to Smith & Zimmer, of Minneapolis, Minn., as per company's books at Peoria, Ill."; "In re accounting between Dowagiac Manufacturing Co. and Smith & Zimmer, of Minneapolis, Minn.;" and "List of Parties Sold Peoria Drills in 1899, and Net Receipts of Same."

Defendants' counsel objects to the schedule, "In re Accounting between Dowagiac Manufacturing Co. and Smith & Zimmer, of Minneapolis, Minn.," for the reason that it embraces other than machines claimed to have been infringed by Smith & Zimmer, of the Hoyt patent.

Also schedule "Summary Sales of Peoria Shoe Drills, by Messrs. Selby Starr & Co., to Smith & Zimmer," for the reason that it includes drills sold or delivered to Smith & Zimmer that were not covered by the patent, and that were not purchased by Smith & Zimmer, some of which have been returned since the accounting, made by Smith & Zimmer. Defendants' counsel objects to the account of Smith & Zimmer for drills handled in 1901-2 as Commissions on Sales, made for Selby Starr & Co., when the bill charges and claims only for drills sold by Smith & Zimmer as the sales agent for Selby Starr & Co. Defendants' counsel objects to the schedule, "Summary of Sales of Drills, by Selby Starr & Co., to other parties than Smith & Zimmer," for the reason that such testimony is incompetent, and for which they can in no way be liable under the pleadings of this case.

CROSS-EXAMINATION BY MR. STARR.

XQ. 6. In the schedule of "Summary of Sales of Peoria Shoe Drills, of Selby Starr & Co., to parties other than Smith & Zimmer," you have designated columns as follows: "Net Figures." Please state what you mean by "Net Figures."

A. "Net Figures" is a caption merely used to designate the third column on this sheet, which represents the sales of these shoe drills less the returns.

XQ. 7. Do you mean by this answer the gross receipts and gross returns?

A. That is so.

XQ. 8. Then wherever those words are used in the several schedules to which you have referred, and which have been offered in evidence, you mean gross sales and gross returns?

A. That is so.

XQ. 9. All these accountings were made by you under the direction of Mr. Chappell, who is the attorney for the Dowagiac Manufacturing Co.?

A. Mr. Chappell simply instructed me to fully check and verify the lists rendered by Messrs. Smith & Zimmer, adding, of course, any additional sales that it would appear to me should be included in the lists. Various lists and statements which I have rendered represent the result of my investigation.

XQ. 10. They are simply copies taken from the books made by you, of Smith & Zimmer and Selby Starr & Co.?

A. The figures and details are of course extracted from the books, but these statements and lists are not copies of any books.

X. Q. 11. The prices paid and the prices at which the drills are charged on the books were all taken from the books, were they not?

A. I did not verify the Smith & Zimmer prices paid on their books. I was only asked to verify their sales. The sales price on the Smith & Zimmer lists are in accordance with their books, and the prices as shown on the lists extracted from the Selby Starr Books, are likewise directly in accordance with the figures recorded on the books.

XQ. 12. In the accounting of patent cases, when were you first employed by Mr. Chappell?

A. I did my first work for Mr. Chappell on March the 28th of this year, in the matter of the Dowagiac Manufacturing Co. vs. Messrs. Brennan & Co., S. W., Agl. Works, et al., of Louisville, Ky.

XQ. 13. In what other patent cases of Dowagiac Manufacturing Co. have you been employed as accountant?

A. Dowagiac Manufacturing Co. vs. Minnesota Moline Plow Co., of Minneapolis, Minn., and Dowagiac Manufacturing Co. vs. Bradley Clark & Co., of Minneapolis.

XQ. 14. Is that the extent of your experience in aiding in taking the accounts in patent cases?

A. This is the extent of my responsible work. I have assisted with some of the work in connection with the Dowagiac Co. vs. the McSherry Manufacturing Co., acting in that case for the McSherry Company.

FRED W. HART.

STATE OF MICHIGAN, } ss.
COUNTY OF CASS. }

I, ABNER M. MOON, Notary Public in and for said county and State, do hereby certify that proceedings were had herein as stated in the caption hereto; that, on June 27, 1905, I was attended by FRED L. CHAPPELL and W. C. MARGESON, on behalf of complainant, and JULIUS S. STARR, on behalf of defendant; that FRED W. HART was produced before me as a witness on behalf of complainant, and was by me duly sworn; that the said deposition was taken on a typewriting machine under my supervision and direction, and was completed on the above date; and that the several exhibits offered have been by me duly certified and marked in evidence.

I further certify that I am not related by blood or marriage to any of the parties in controversy, nor interested directly or indirectly in the event of this suit.

In witness whereof I have hereunto set my hand and notarial seal, this 10th day of July, 1905.

(SEAL) ABNER M. MOON,
Notary Public.

My commission expires Jan. 20, 1909.

Deposition of Sylvester C. Swayne.

UNITED STATES CIRCUIT COURT, FOR DISTRICT OF MINESOTA, FOURTH DIVISION THEREOF.

IN EQUITY.

DOWAGIAC MANUFACTURING CO.,
Complainant,

vs.

SMITH & ZIMMER,
Defendants.

Pursuant to the agreement between the attorneys for the respective parties, the parties hereto appeared at the office of S. R. Child, master herein, at the Lumber Exchange, in the city of Minneapolis, Minnesota, at two o'clock P. M. on the 12th day of July, 1905.

Fred L. Chappell appeared as attorney for the complainant, and Julius S. Starr appeared as attorney for defendants.

SYLVESTER C. SWAYNE being duly sworn and cautioned, upon examination by Mr. Chappell, testified as follows: —

Q. 1. You are the person who has just given testimony in the suit pending in this court, before Mr. Hitchcock, as master, in which the Dowagiac Manufacturing Co. is complainant, and the Minnesota Moline Plow Company is defendant.

A. Yes, sir.

Q. 2. Are you familiar with the Peoria shoe drill, that has been held to infringe the Hoyt patent here in suit?

A. Yes.

Q. 3. Please state to what extent and how extensively in your territory you came into contact with the said infringing drill?

A. I came in competition at many of the points of my territory.

Q. 4. I call your attention specifically to the list of customers and sales already offered in evidence in the case, being entitled, complainant's exhibit, list of parties sold Peoria drills in 1899, and net receipts of same, and also complainant's ex-

hibit in re accounting claim of between Dowagiac Mfg. Co. and Smith & Zimmer, of Minneapolis, Minnesota, Schedule A-1, Schedule A-2, and Schedule A-3, and ask you to note the names and addresses of the parties appearing there, and state whether or not you covered substantially the same territory for the Dowagiac Mfg. Co.

A. I covered practically the same territory, and most of the names are of parties who were in the territory covered by me.

Q. 5. I ask you to note the prices at which these shoe grain drills were sold, and to state whether or not the prices are greater or less than the prices at which you sold the Dowagiac shoe drills, of corresponding sizes, in the territory where these sales were made.

A. The prices are very much less than the prices at which I sold Dowagiac drills.

Q. 6. Please state briefly the feature or features of the infringing drill which enabled it to compete with the Dowagiac drill in this territory, and the feature or features of the said infringing drills that were controlling in the making of sales in this territory.

A. Owing to the conditions of the soil in the northwest generally, it was necessary to use what we termed the long rod or spring pressure, which is used on the Dowagiac drill, and as the Peoria spring pressure was similar to the Dowagiac, it came in direct competition.

It is stipulated by and between counsel for the respective parties that the testimony of this witness taken this morning before Mr. Hitchcock, above referred to, may be read in this case as though taken de novo here, and complainant's counsel will furnish a copy of the same for the purpose. Direct examination follows.

Defendant's counsel stipulates that inasmuch as the testimony taken before Hitchcock, Master in Chancery, in the case of the Dowagiac Co. vs. Moline Plow Co. et al., may be read in evidence upon the part of the defense, defendant hereby waives a cross-examination of this witness.

SYLVESTER C. SWAYNE.

Deposition of Sylvester C. Swayne, given in the case of Dowagiac Manufacturing Co. vs. Minnesota Moline Plow Co., is as follows: —

Deposition of Sylvester C. Swayne.

UNITED STATES OF AMERICA

DISTRICT OF MINNESOTA, FOURTH DIVISION

DOWAGIAC MANUFACTURING COMPANY,

Complainant.

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In an accounting before George F. Hitchcock, Jr., Special Master.

Testimony taken on behalf of complainant pursuant to consent of counsel before the said Master at his office in the Post-office building, city of Minneapolis, Minn., beginning July 12th, 1905, at eleven o'clock in the forenoon.

Present: Fred L. Chappell, Esq., on behalf of complainant, Thomas A. Banning, Esq., on behalf of defendants.

SYLVESTER C. SWAYNE, having been first duly sworn and cautioned, deposed and testified as follows in response to questions by Mr. Chappell:—

Q. 1. State your name, age, residence and occupation?

A. Sylvester C. Swayne, 48, Minneapolis, Minn. General agent for the Dowagiac Manufacturing Co.

Q. 2. Please state your experience with the Dowagiac Manufacturing Co., the complainant herein, giving the time when you entered their employment, the capacity of your employment from time to time, and the territory which you have covered in your capacity as salesman or agent?

A. I think I entered their employ sometime in July, '96, at Fargo, N. D. I traveled in that territory and had charge of it practically until November last, when I moved to Minneapolis. I had charge of the contract work, traveled in that territory almost constantly and negotiated their settlements for them.

Q. 3. How extensive was the territory which you covered?

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duit to convey grain from the seed box to the tubular boot without permitting the connection between the seed box and the tubular boot to be broken or interrupted by the movements of the shoe or runner while following the undulations of the ground. Are not these features essential to any practical shoe drill?

A. Yes.

XQ. 30. You have mentioned a number of drills that came into competition with the Dowagiac drill during the period that you were agent for the same. As I understand you, the drills that you mentioned in your answer to cross-question ten were shoe drills. Is that correct?

A. Yes.

XQ. 31. In your answer to cross-question ten, did you include other kinds of drills than shoe drills? If not, please mention all other kinds of drills—disc drills or hoe drills—that you were in competition with while selling the Dowagiac shoe drills?

A. Disc drills came into competition about 1902; we use no hoe drills in our territory.

RE-DIRECT EXAMINATION BY MR. CHAPPELL.

RDQ. 32. Were there unpatented drills sold in competition with the Dowagiac shoe drills in your territory at any time since you have been familiar with the territory, to your knowledge?

A. No.

RE-CROSS-EXAMINATION BY MR. BANNING.

RXQ. 33. The patents on the drills referred to in the last question and answer related to various improvements of different kinds, did they not?

A. I presume so.

SYLVESTER C. SWAYNE.

ERNEST F. SMITH, being duly sworn on behalf of complainant, upon examination by Mr. Chappell, testified as follows:—

Q. 1. You are the Ernest F. Smith, one of the defendants in this cause, are you not?

A. I am.

Q. 2. I call your attention to the list of parties to whom the defendants, Smith & Zimmer, have sold Peoria shoe drills,

namely, complainant's exhibit, list of parties sold Peoria drills in 1899, and net receipts of the same, and complainant's exhibits in re accounting between Dowagiac Manufacturing Co. and Smith & Zimmer, Minneapolis, Schedule A-1, Schedule A-2, and Schedule A-3, and ask you if there is any way in which the books of Smith & Zimmer distinguish the different kinds, or indicate the different kinds of shoe drills, embraced in this list?

A. I do not know.

Q. 3. Are you familiar with books?

A. No, sir.

Q. 5. Is Mr. Zimmer familiar with the books?

A. I do not know.

Q. 5. Where is the bookkeeper who kept the books; what is his name?

A. I think our bookkeeper at that time was Ruben C. Pickett. The last I knew he was in the penitentiary, but I think he was pardoned out.

Q. 6. I bring your attention to a letter bearing date 6/28/05; ask you if you wrote or caused that letter to be written?

A. Yes, sir.

Q. 7. Does that letter contain a true statement of matters pertaining to the defendants, Smith & Zimmer, and relative to the Smith & Zimmer Co.?

A. I think so.

The letter is offered in evidence, with the request that it be marked, "Complainant's Exhibit, Smith Letter to Chappell."

Q. 8. I suppose the assets of the firm of Smith & Zimmer have been transferred to the Smith & Zimmer Co. Is that right?

A. Yes.

Q. 9. I suppose the company is to be dissolved is the reason the remark in this letter, "We expect to go out of business in the near future;" is that right?

A. We haven't decided on that.

Q. 10. What did you mean, then, by the expression, "We expect to go out of business in the near future?" I quote from your letter.

A. We hope to sell out some day.

Q. 11. You mean to dispose of your assets or of your corporate franchise?

Defendant's counsel objects to this question, for the reason that this suit is brought against Smith & Zimmer, as partners, and the question as asked relates to Smith & Zimmer, the cor-

poration, and is not material in this case, as they are not the same parties in the action.

Objection overruled.

A. We have not decided on what we are going to do.

Q. 12. Under the laws of what State is Smith & Zimmer Co. incorporated?

A. Minnesota.

Direct examination closed.

CROSS-EXAMINATION BY MR. STARR.

Q. 13. Mr. Smith, you may look at the several schedules to which Mr. Chappell has called your attention, of the supposed sale of Peoria drills, and state whether or not you personally had anything to do with the making up the list from the records of your books?

A. No, sir.

Q. 14. I notice in schedule marked "Complainant's exhibit, list of parties sold Peoria drills in 1899, and net receipt of same," and state whether or not the statement in the caption of said list, where it says, "net receipts," and state what it means by "net receipts," as shown by said list.

Objected to as not competent, witness not having prepared the list, and having stated that he is not familiar with the books. His statement will be only hearsay.

By the Master: I overrule the objection. If he knows anything about it, he can state what he knows.

A. This list of receipts means the gross receipts or the total amount received for the drills, without deducting anything for expenses of any nature whatever.

The defendant's counsel, in view of the introduction of the letter by Mr. Smith to Mr. Chappell, the attorney for the complainant in this case, now offers to substitute the name of Smith & Zimmer Co. for that of Smith & Zimmer, co-partners, if acceptable to complainant.

Complainant's counsel remarks that he does not care to decide this question instanter, not knowing the responsibility of the Smith & Zimmer Co.

ERNEST F. SMITH.

Complainant's counsel states that in the progress of this accounting, the depositions taken and the depositions also read in the case, before the interlocutory decree, will be referred to and used before the master so far as the same may be pertinent to this accounting, and if counsel for defendants desires, this

specific reference to the parts to be relied upon will be furnished him in a formal notice to that effect.

Defendant's counsel gives notice that he desires a copy of all evidence, etc., as the complainant's desire to offer in evidence on the part of the complainant in this case before he be required to proceed to take the testimony on the part of the defense, and sufficient length of time to enable him to examine such evidence and papers.

COMPLAINANT'S EXHIBIT, SMITH LETTER TO CHAPPELL.

(Smith & Zimmer Co. letterhead.)

Minneapolis, Minn., 6/28/05.

Dictated EFS-M.
Fred S. Chappell,
Kalamazoo, Mich.

Dear Sir: Your letter of the 21st has been held pending my return from the East. I have been gone about ten days. It is probable that Mr. Starr, of Peoria, is now in Dowagiac attending the hearing referred to. As you know, Selby-Starr Co. are really the ones that are owing your company, if there is anything due you, and they are the real defendants in this case. We expect to go out of business in the near future, and would suggest that the names of Selby Starr & Co. be substituted in place of ours. By the way, you seem to have brought suit against Smith & Zimmer instead of this company. Was not this a mistake on your part?

Respectfully,
SMITH & ZIMMER CO.,
By Ernest F. Smith, Pres't.

Notice to Take Testimony.

UNITED STATES OF AMERICA.

CIRCUIT COURT OF THE UNITED STATES.

DISTRICT OF MINNESOTA, FOURTH DIVISION.

DOWAGIAC MANUFACTURING CO.,
Complainant.

vs.

ERNEST F. SMITH, AND
LUPPO W. ZIMMER,
Defendants.

IN THE MATTER OF THE ACCOUNTING BEFORE SAMPSON R. CHILD, MASTER IN CHANCERY.

To Julius S. Starr, Esq.,
Solicitor for Defendants.

SIR: Please take notice that on Monday, July 24, 1905, at ten o'clock in the forenoon, I shall take testimony on behalf of complainant in the above-entitled cause, at the office of the Dowagiac Manufacturing Company, Dowagiac, Michigan, before Abner M. Moon, a Notary Public, or other competent officer.

Testimony will be taken in accordance with Equity Rule 67, as amended, and the stipulations heretofore entered into between the parties hereto. You are invited to be present at the taking of said testimony.

The witness to be examined will be CHARLES F. FOWLE.

FRED L. CHAPPEL,
Solicitor for Complainant.

Kalamazoo, Mich., July 21, 1905.

Service acknowledged this 22d day of July, 1905.

JULIUS S. STARR,
Solicitor for Defendant.

Peoria, Ill.

Deposition of Charles L. Fowle.

CIRCUIT COURT OF THE UNITED STATES.

DISTRICT OF MINNESOTA, FOURTH DIVISION.

IN EQUITY.

DOWAGIAC MANUFACTURING CO.,
Complainant,

vs.

ERNEST F. SMITH, AND
LUPPO W. ZIMMER, CO-PARTNERS,
Defendants.

IN THE MATTER OF ACCOUNTING BEFORE THE MASTER, SAMPSON R. CHILD.

Testimony taken on behalf of the complainant pursuant to consent of counsel of both parties at the office of the Dowagiac Manufacturing Company, Dowagiac, Mich., beginning at 11:00 o'clock in the forenoon, July 24, 1905, before Abner M. Moon, a notary public, pursuant to stipulation and by consent of counsel.

Present: Fred L. Chappell, on behalf of complainant.

No one appearing on behalf of defendants, being understood that the witness will be produced hereafter within a reasonable time for cross-examination, and that defendant's counsel may interpose objections the same as though he had been present at the taking of the deposition. This statement being made pursuant to understanding of defendant's counsel, Mr. J. S. Starr.

CHARLES L. FOWLE, being called as a witness, deposes and testifies as follows in response to interrogatories by Mr. Chappell, the oath to be administered by the notary during the progress of the deposition:—

Q. 1. You are the Charles L. Fowle who gave testimony in the accounting wherein the Dowagiac Manufacturing Co. is

complainant and Brennan & Co. Southwestern Agricultural Works et al. were defendants, pending in the United States Circuit Court for the District of Kentucky?

A. I am.

Q. 2. I call your attention to the list of customers of the above named defendant with the sales of shoe drills indicated, the same being entitled "Statement showing the shoe drills purchased from the McSherry Manufacturing Co., of Middletown, Ohio, and sold by the Minnesota Moline Plow Co., with the purchase and selling prices of the same," already in evidence, and ask you to consider the territory covered there and state whether or not this territory has been covered by the Dowagiac Manufacturing Co. in the sale of shoe drills made under and in accordance with the Hoyt Patent in suit.

A. Yes, we covered all of this territory in the sale of our Shoe drill quite thoroughly. Of course there would be some towns where we would not have a customer or agency—by customer I mean a retail implement dealer selling Dowagiac drills in some particular year or several successive years, but in such cases there was usually such a representative in some nearby town, and as the territory was all covered by our traveling men, soliciting orders and contracts, and we had several hundred customers each year, all of the territory was pretty well covered.

Q. 3. Considering this list of sales to which I have just referred please state whether in your judgment the complainant would have sold Dowagiac Shoe drills of an equal amount and kind had not the defendant invaded this territory and made these sales, giving your reasons or any facts familiar to you for the answer you may make.

A. I have good reason to believe that the Dowagiac Co. would have sold as many drills as they did with the infringing drills added, because it is certain that the demand existed for a shoe drill like the Dowagiac which was first introduced in that territory, and I believe that the total number of drills could have been sold by the Dowagiac Co. with no greater or even less expense than they were put to in selling what they did, because active competition greatly increased the cost of selling. Until 1895 I personally traveled the two Dakotas and western Minnesota and had been there in charge of the northwest territory from the introduction of the shoe drill in the northwest by myself in the spring of 1886, and I was very familiar with the conditions of the shoe drill trade in that territory during that period.

Q. 4. What has been your familiarity with the territory since the time indicated in your last answer and what have been your duties in that connection?

A. All of the time since then I have been located at the home office in Dowagiac in charge of the Sales Department. Part of my duties has been to control the sales work generally, make prices for each season's business, correspond with the traveling force, inspect contracts when submitted for the sale of our drills to implement dealers, and each year have made one or more trips to Minneapolis and Fargo and sometimes through the territory to see some of our customers, the dealers.

Q. 5. As an incident of your duties have you kept posted as to the grain drills in competition in the territory covered by the list of the defendants' sales under consideration?

A. I have as fully as possible, and by general current report believe that I was correctly informed of prices. In some instances to verify that I have obtained contracts written by our competitors with retail implement dealers; in other cases made photographs.

Q. 6. Please state whether or not to your knowledge any unpatented drills have been marketed in this territory during the period of dates of sales indicated in this list, and also whether or not since the introduction of the Dowagiac Shoe drill manufactured under the Hoyt patent in suit there have been any unpatented drills sold in the same territory in competition with the said Dowagiac Shoe drill.

A. I am quite certain that there were none with the exception of possibly some hoe drills, a few of them sold in Eastern Minnesota along the river. I made several trips south from Minneapolis during that period and found that the small farmers along the river and close to the river (Mississippi river) south to the Iowa line were using two-horse broadcast seeders mostly, but were using some hoe drills. There were no hoe drills sold west from there that I know of. The last hoe drill I saw in North or South Dakota was one at Larimore, N. D., in 1889. It was then in an implement dealer's show room.

The direct examination closed.

Complainant's counsel states that he offers in evidence complainant's complete Record in the main case.

It is stipulated by and between the counsel herein that the cross-examination by Mr. Banning and the re-direct examination by Mr. Chappell, of CHARLES L. FOWLE, taken in the case of Dowagiac Manufacturing Company vs. Minnesota Moline Plow Company, may be used as a part of the deposition of the said Charles L. Fowle in this case, and to have the same force and effect as if said cross-examination and re-direct examination had been taken herein.

STATE OF MICHIGAN, }
COUNTY OF CASS, } ss.

I, ABNER M. MOON, a notary public in and for said county and State, do hereby certify that proceedings were had herein as stated in the caption hereto; that on July 24, 1905, I was attended by FRED L. CHAPPELL on behalf of complainant, no one appearing on behalf of defendant, proceedings being had on said date pursuant to agreement of counsel; that CHARLES L. FOWLE was produced before me as a witness on behalf of complainant, and was by me duly sworn; that the said deposition was taken on a typewriting machine under my supervision and direction; and that the several exhibits offered have been by me duly certified and marked in evidence.

I further certify that I am not related by blood or marriage to any of the parties to this suit, nor interested directly or indirectly in the matters in controversy.

In witness whereof, I have hereunto set my hand and seal this 28th day of August, 1905.

ABNER M. MOON,
Notary Public.

(SEAL)

My commission expires Jan. 20, 1909.

(INTRODUCED BY STIPULATION.)

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

MINNESOTA MOLINE PLOW COMPANY, et al.,

Defendants.

In the matter of accounting before the Master, George F. Hitchcock, Jr.

Testimony taken on behalf of the complainant pursuant to consent of counsel of both parties at the office of the Dowagiac Manufacturing Co., Dowagiac, Mich., beginning at 11:00 o'clock in the forenoon July 24th, 1905, before Abner M. Moon, a notary public, pursuant to stipulation and by consent of counsel.

Present: Fred L. Chappell on behalf of complainant, Thomas A. Banning on behalf of defendants.

CROSS-EXAMINATION BY MR. BANNING.

XQ. 7. What other shoe drills were sold in the northwest territory during the period covered by this accounting besides those sold by the defendant. In answering this question please first state those which have been held to infringe the Hoyt patent sued on and then state those which used a different kind of pressure for the shoes so as not to infringe the Hoyt patent.

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In witness whereof, I have hereunto set my hand and seal this 9th day of August, 1905.

(Signed) ABNER M. MOON,
Notary Public.

My commission expires Jan. 20, 1909.

CIRCUIT COURT OF THE UNITED STATES

DISTRICT OF MINNESOTA, FOURTH DIVISION

IN EQUITY

DOWAGIAC MANUFACTURING COMPANY,

Complainant,

vs.

ERNEST F. SMITH AND LUPPO W. ZIMMER,

Defendants.

In the matter of accounting before the Master, Sampson R. Child.

STIPULATION.

It is hereby stipulated and agreed that the prima facie evidence on the accounting in the case of this complainant against Brennan & Co., Southwestern Agricultural Works, et al., pending in the district of Kentucky, may be, and hereby is admitted into to constitute a part of the prima facie evidence of the complainant in the accounting in the case, together with all statements, schedules, exhibits, illustrations, and other matter forming a part of or going with the prima facie evidence admitted as above, subject to all objections made or proper to be made to the same, to have the same force and effect in every respect, so far as applicable and pertinent to the issues on this accounting, as if taken and offered herein in the first instance, or *de novo*. Copies of the evidence, statements, schedules, etc., so admitted into this case to be furnished to the counsel for the defendants herein, a reasonable time before the defendants shall be required to proceed with its evidence. In like manner and under the same conditions, the deposition

of William H. Taylor taken in the accounting in the case of this complainant against the McSherry Manufacturing Co., pending in the Southern District of Ohio, may be and hereby is admitted into the accounting herein.

It is further stipulated and agreed that should the defendant herein hereafter desire to make use of any deposition or depositions taken on the part of the defendant or defendants, in the accounting in the case against Brennan & Co., Southwestern Agricultural Works et al., or in the case against the McSherry Manufacturing Co., it shall be at liberty to introduce a copy of such deposition or depositions to have the same force and effect as if said deposition or depositions had been taken herein—the defendant herein to designate any deposition or depositions which it may desire to have admitted in as above before the complainant has commenced its rebuttal testimony herein, and such deposition or depositions to be subject to any and all proper legal objections not removed by this stipulation.

FRED L. CHAPPELL,
Solicitor for Complainant.

JULIUS S. STARR,
Solicitor for Defendants.

(INTRODUCED BY STIPULATION.)

MR. WM. H. TAYLOR, called as a witness on behalf of complainant, being first duly sworn, deposed and testified as follows, in response to interrogatories by Mr. Chappell:—

Q. 1. State your name, age, residence and occupation.

A. 1. Name, Wm. H. Taylor; age, forty-three; residence, Moline; occupation, trade manager of Moline Plow Company.

Q. 2. Are you familiar with the transactions of the Moline Plow Company or the Minnesota Moline Plow Company with the McSherry Manufacturing Company of Middletown, Ohio, the above named defendant, relative to their shoe drills from the period of 1893 to June, 1900?

A. 2. In some respects I am.

Q. 3. What other shoe drills were handled by the Moline Plow Company, and if you know, by the Minnesota Moline Plow Company during the period I have indicated?

A. 3. We did not begin handling the McSherry until 1896. We handled no shoe drills for the Minnesota house after that period except the McSherry.

Q. 4. With whom else did you negotiate for the purchase of shoe drills at or about the time you made contracts with the McSherry Manufacturing Co., the above named defendant?

A. 4. I am not able to state whether we negotiated with others at that time or not.

Q. 5. Did you not at some time between the beginning of the year 1896 and June, 1900, negotiate with Selby, Starr & Company of Peoria for the purchase of shoe drills?

A. 5. I would be unable to state whether we negotiated in that period or not.

Q. 6. Who would be most likely to know of your company?

A. 6. The officers of the company.

Q. 7. Is there any record in the office of the company to which you could refer or any memoranda or correspondence to ascertain the facts relative to this matter?

A. 7. Yes, sir.

Q. 8. Will you kindly look the matter up and give such information as you can on the subject?

A. 8. I will.

Q. 9. Can you state what price was paid to the McSherry Manufacturing Co. for shoe drills by the Moline Plow Company or the Minnesota Moline Plow Company?

A. 10. I cannot.

Question is objected to by counsel for defendants as irrelevant and incompetent.

IN RE ACCOUNTING BETWEEN DOWAGIAC MFG. CO. AND SMITH & ZIMMER, OF MINNEAPOLIS, MINN.

Statement or List of Sales, as rendered by Smith & Zimmer, shows: —

SOLD.

	13	17	20	22	
1899	10	138	84	169	$25,028.57
1900	6	51	36	57	10,883.60
1901	2	22	35	13	4,584.05
Total	18	211	155	239	$40,496.22

On examination of the Smith & Zimmer books, certain errors and omissions are found to exist, as shown on Schedules "A" and "B."

Thus: —	13	17	20	22	
Sales for 1899 of (as above)	10	138	84	169	$25,028.57
Should be increased as per Schedule A (ii) by		8		1	532.29
Giving	10	146	84	170	$25,560.86
Which should be diminished as per Schedule A (iii) by		1	20	5	337.81
Final result 1899 being	10	145	64	165	$25,223.05
Sales for 1900 (as above)	6	51	36	57	$10,883.60

Books of Messrs. Smith & Zimmer not available for

Sales for 1900 (as above) .....

(Books of Messrs. Smith & Zimmer not available for checking this period.)

Sales for 1901 (as above)	2	22	35	13	$4,584.05
Should be increased as per Schedule A (iii) by					95.50
As per Schedule B (i) by		1	2	2	443.00
Giving	2	23	37	15	$5,122.55
Which should be diminished by as per Schedule A (iii)..	1	7	3	2	530.65
Final result 1901 being	1	16	34	13	$4,591.90

SUMMARY OF CORRECTED FIGURES.

1899	10	145	64	165	$25,223.05
1900	6	51	36	57	10,883.60
1901	1	16	34	13	4,591.90
— Final corrected total	17	212	134	235	$40,698.55

598 machines.

SCHEDULE A (i). LIST OF ERRORS ON LIST OF SALES. (SMITH & ZIMMER.)

Sheet No.	Date of sale.	Particulars.	Additions to List. 13 17 20 22	Deductions from List. 13 17 20 22
3	1898	Additions of Sales of 22 shoe should be 167 instead of 169		2

3			Addition of amount should be [illegible] instead of $25,028.57						$200.01
2	Dec.	12	F. Carpenter, machine returned, should not enter into account					1	
2		15	E. J. Moore, machine returned, should not enter into account					1	
2		15	John Young, machine returned, should not enter into account					1	
2	Jan.	14/99	Engelbert & Schmidt, same as above				1		
2	Jan.	27	Thompson & Mead, 1-17 shoe entered, should be 7-17 shoe	6					
3	March	20	Hamilton Bros., 20-20 shoe entered, should be 1-20				19		
3	March	21	A. R. Swanson & Co., 1-20 shoe, should be 1-17 shoe	1			1		
3	March	31	M. T. Gill, 2-22 shoe entered, should be 3-22 shoe		1				
2	Dec.	12/98	O. A. Jacobson, paid for by note...$85.00 List states 81.00						
			Difference 4.00			$ 4.00			
2	Dec.	12	O. A. Johnson, paid for by note.... 85.00 List states 76.50						
			8.50			8.50			
2	Dec.	27	Olof Nelson, paid for by note..... 70.00 List states 63.00						
			7.00			7.00			
2	Jan.	14/99	Engelbert & Schmidt, drill not retd., as stated, a 20 shoe drill being retd. Drill paid for 6/1/99.		1	59.20			
2	Jan.	26	C. A. Harris, drills paid for by note 150.50 List states 127.33						

		enter into account					1
2	Jan. 14/99	Engelbert & Schmidt, same as above				1	
2	Jan. 27	Thompson & Mead, 1-17 shoe entered, should be 7-17 shoe	6				
3	March 20	Hamilton Bros., 20-20 shoe entered, should be 1-20					19
3	March 21	A. R. Swanson & Co., 1-20 shoe, should be 1-17 shoe	1				1
3	March 31	M. T. Gill, 2-22 shoe entered, should be 3-22 shoe		1			
2	Dec. 12/98	O. A. Jacobson, paid for by note...$85.00 List states 81.00					
		Difference 4.00			$ 4.00		
2	Dec. 12	O. A. Johnson, paid for by note.... 85.00 List states 76.50					
					8.50		
2	Dec. 27	Olof Nelson, paid for by note..... 70.00 List states 63.00					
					7.00		
2	Jan. 14/99	Engelbert & Schmidt, drill not retd., as stated, a 20 shoe drill being retd. Drill paid for 6/1/99.	1		59.20		
2	Jan. 26	C. A. Harris, drills paid for by note 150.50 List states 127.33					
					23.17		
2	Feb. 7	McIntire Bro., paid note..... 240.00 List states 140.00					
					100.00		

			List states	140.00								
				70.00			70.00					
2	Feb.	20	Works & Estenson, settlement as follows: Drills	611.00								
			Less disct.	94.10								
				516.90								
			Less frt.	39.93								
				476.97								
			Entrd. list	449.57			27.40				..	
			Forward		8	1	$299.27	1	20	5		$200.01

SCHEDULE "A" (ii).

Sheet No.	Date of sale.	Particulars.		Additions to List. 13	17	20	22		Deductions from List. 13	17	20	22	
	Forward.				8		1	$299.27		1	20	5	$200.01
3	March 15/99	Greene & Lehman Settlement, as follows: Drills	$ 723.00										
		Less 10 and 6 per cent.....	103.73										
			619.27										
		Less frt.	66.72										
		Net proceeds	552.55										
		Entered list	619.27										
		Difference	66.72										66.72
3	March 17	J. H. Spelliscy, settlement as follows: Drills	164.00										
		Less 10 and 6 per cent.....	25.25										
			138.75										
		Less Allce.	6.00										
		Net	132.75										
		Entered on list as	104.00										
		Difference	28.75					28.75					
3	March 20	Hamilton Bro., settlement as fol-											

			1,218.60	
		Less frt.	127.40	
		Net	1,091.20	
		Entered as	1,002.40	
		Difference	88.80	88.80
3	March 20	Jacob Kern, settlement as follows: Drills	929.00	
		Less frt.	117.00	
			812.00	
		Entered as	745.16	
		Difference	66.84	66.84
3	March 30	Rue, Peterson & Rue, settlement as follows: Drills	392.00	
		Less 10 and 6 per cent	60.37	
			331.63	
		Less frt.	30.00	
		Net	301.63	
		Entered as	253.00	
		Difference	48.63	48.63
3	March 31	John Dudman & Co., settlement as follows: Drills	1,020.00	
		10 and 6 per cent	157.08	
		Net	862.92	
		Entered as	934.00	

		Difference	71.08									71.08
		Total differences 1899 season		8	1	$532.29		1	20	5		$337.81
1901												
5	March 27	I. K. Tvedt, 1-20 shoe is not in fringing drill.							1			
5	March 1	T. M. Lewis, 2 machines retd.						1	1			
5	March 11	T. M. Lewis, settlement as follows: Drills	219.00									
		Less 10 per cent	21.90									
			197.10									
		Entered as	169.10									
		Difference	28.00			28.00						
		Forward				$28.00		1	2			

SCHEDULE A (iii).

Sheet No.	Date of sale.	Particulars.	Additions to List. 13	17	20	22		Deductions from List. 13	17	20	22	
	Forward.						$28.00			1	2	
5	March 27/01	Hennepin Lumber Co., 20 shoe sold for					67.50					
5		Addition of amounts, should be $4,556.15, instead of $4,584.05										27.90
5	Feb. 11	Machines booked as sales to Selby Starr										
5	12	are actually returned purchases						1	7	2		502.75
		Total differences 1901					$95 50	1	7	3	2	$530.65

SCHEDULE "B."

SMITH & ZIMMER COMMISSION ACCOUNT.

Date. 1901		Credit.	Commission on Drills. 13	17	20	22			Amounts.
Jan.	14	Commission on Sales of		1	3	•			$ 56.25
	31	" " " "		3			at	$11.25	33.75
	31	" " " "			3		at	15.00	45.00
Feb.	8	" " " "				1			19.00
	13	" " " "	3					10.50	31.00
	13	" " " "		4			at	14.25	57.00
	15	" " " "	3					10.50	31.00
	15	" " " "		3				14.25	42.75
	15	" " " "			2			18.00	36.00
	20	" " " "		3				14.25	42.75
	23	" " " "				2		19.00	38.00
March	6	" " " "		5	4	4			219.25
	11	" " " "				1			19.00
	11	" " " "		4					57.00
	11	" " " "		3	1				60.75
	11	" " " "	1	4	2				105.50
	15	" " " "			1				18.00
	25	" " " "			2	3			68.00
	25	" " " "				4			76.00
	27	" " " "		3	5	5			227.75
April	10	" " " "			1	4			94.00
	12	" " " "				5		13.90	69.50
	12	" " " "			7			13.25	92.75
	12	" " " "		8				10.25	82.00
	12	" " " "	1						7.20
	10	" " " "				1			19.00
ept.	20	" " " "		1				10.25	10.25

Sept. 20	" " " "		1		10.25	10.25
				1		13.90
	Total	8	42	31	31	$1,673.35
	Less commission on Porter Bros., return				1	19.00
	Net commissions year 1901	8	42	31	30	$1,654.35
		111 machines.				

SMITH & ZIMMER COMMISSION ACCOUNT, 1902.

Date.		Commission on Drills. 13	17	20	22		Amount.
Feb.	On Sales of			1	1		$27.00
"	" " "		2		3		58.80
March 7	On Sales of	2				at $10.50	21.00
11	" " "		4			15.75	63.00
11	" " "				1	13.00	13.00
11	" " "		2			9.90	19.80
11	" " "				1		19.00
11	" " "		2			9.90	19.80
11	" " "			3		11.40	34.20
11	" " "				2	13.00	26.00
14	" " "		1				9.90
14	" " "			2		11.40	22.80
14	" " "				1		13.00
22	" " "		2			9.90	19.80
22	" " "			2		11.40	22.80
22	" " "				1		13.00
22	" " "		1				14.75
22	" " "			1			17.00
22	" " "				2	19.00	38.00
22	" " "			5		11.40	57.00
22	" " "		4			9.90	39.60
22	" " "				5	13.00	65.00
25	" " "			3		17.00	51.00
25	" " "		1				14.75
25	" " "		2			15.75	31.50
April	" " "		1				14.75
April	" " "		1				14.75
					3	13.00	65.00
	Total Commissions	2	23	17	20		$826.00
	Less returned commissions.						
	Porter Bros., reduction				2	19.00	38.00
	Wm. Horstman, reduction in price		1				14.75
	Pederson Bros., reduction						45.00
	Hanhart, reduction				1		19.80
	Total returns deducted from above total commissions.		1		3		117.55
	Net Commissions	2	22	17	17		708.45
		58 machines.					

SUMMARY OF SALES OF PEORIA SHOE DRILLS BY MESSRS. SELBY, STARR & CO., TO PARTIES OTHER THAN SMITH & ZIMMER, AS PER THE COMPANY'S BOOKS AT PEORIA, ILL.

	Sales					Returns, Etc.					Net Figures				
Year	13	17	20	22	Amount	13	17	20	22	Amount	13	17	20	22	Amount
1898		3			163 50							3			163 50
1899			1		59 00								1		59 00
1900	1				50 00						1				50 00
1901	8	44	39	31	8,426 85				1	80 00	8	44	39	30	8,346 85
1902	2	23	17	20	4,335 75		1		3	349 00	2	22	17	17	3,986 75
Total	11	70	57	51	13,035 10		1		4	429 00	11	69	57	47	12,606 10
	189 Machines					5 Machines					184 Machines				

LIST OF PEORIA DRILL SALES TO OTHER FIRMS THAN SMITH & ZIMMER.

Date.	Particulars.	Sizes. 13	17	20	22	Price each.	Selling prices.
1898							
March 17	Fargo Storage & Transfer Co.		2			$55.00	$110.00
Sept. 26	Robinson & Co., Kansas City, Mo.		1				53.50
	Total sales, 1898		3				163.50
1899							
March 1	Rhea Thieleus Impl. Co., Peoria, Ill.			1			59.00
	Total sales, 1899			1			59.00

	12	**Hennipin Lumber Co., Minneapolis, Minn.**			**8**			**60.00**	**480.00**
			1						47.70
					7			70.25	491.75
						5		74.90	374.50
		J. Manhart & Co., Lamberton, Minn.				1			80.00
Sept.	20	Hennipin Lumber Co., Minneapolis, Minn.			1				60.00
						1			74.90
		Total, year 1901	8		44	39	31		$8,426.85

SALES OF PEORIA SHOE DRILLS TO PARTIES OTHER THAN SMITH & ZIMMER.

Date.		Particulars.	Sizes. 13	17	20	22	Price each.	Selling prices.
1902								
Feb.	18	Rue, Pederson & Rue, Amboy, Minn.			1			$ 72.00
						1		77.00
	20	Hennepin Lumber Co., Minneapolis		2			61.65	123.30
						3	76.00	228.00
March	7	Hennepin Lumber Co., Minneapolis		2			61.65	123.30
					4		70.40	281.60
						2	76.00	152.00
	7	Pederson Bros., Arco, Minn		4			67.50	270.00
			2				53.00	106.00
	11	Hennepin Lumber Co., Minneapolis, Minn		2			61.65	123.30
						1		76.00
	11	Hennepin Lumber Co., Minneapolis, Minn		2			61.65	123.30
					3		70.40	211.20
						2	76.00	152.00
	11	W. W. Strong, Graceville, Minn				1		82.00
	14	Hennepin Lumber Co., Minneapolis, Minn		1				61.65
					2		70.40	140.80
						1		76.00
	22	Leamon Shannon Co., Chokio, Minn		1				66.50
					1			76.00
						2	82.00	164.00
	22	Hennepin Lumber Co., Minneapolis, Minn		4			61.65	246.60
					3		70.40	211.20
						4	76.00	304.00
	25	P. O. Christenson, Gordonsville, Minn		1				66.50
		Pederson Bros., Arco, Minn		2			67.50	135.00
April	8	Wm. Horstman, Lake Benton, Minn		1				66.50
		L. H. Fountain, Pollock, S. D.		1				64.00
	24	Hennepin Lumber Co., Minneapolis, Minn				3	76.00	228.00
March	25	John Barnk, Jara, S. D.				3	76.00	228.00
		Total, year 1902	2	23	17	20		$4,335.75

RETURNED PEORIA DRILLS (OF MACHINES SOLD TO PARTIES OTHER THAN SMITH & ZIMMER).

1901			13	17	20	22	
Nov.	14	Porter Bros., Vernon Center, Minn.				1	$80.00
1901		Returns Total				1	$80.00
1902			13	17	20	22	
		Returned from Porter Bros., Vernon Center, Minn.				2	160.00
		Returned from Wm. Horstman, Lake Benton, Minn		1			64.00
		Bad debt, Pederson Bros., Arco, Minn					45.00
		Returned from Mankart Bros., Lamberton, Minn.				1	80.00
		Total returns, 1902		1		3	$349.00

SUMMARY OF SALES OF PEORIA SHOE DRILLS BY MESSRS. SELBY, STARR & CO., TO SMITH & ZIMMER, OF MINNEAPOLIS, MINN., AS PER COMPANY'S BOOKS AT PEORIA, ILL.

	Sales						Returns						Net Figures					
Year	16	13	17	20	22	Amount	16	13	17	20	22	Amount	16	13	17	20	22	Amount
1897	1		87		61	9,440 75							1		87		61	9,440 75
1898			141		164	18,105 50					6	429 00			141		158	17,676 50
1899		16	163	90	145	24,044 00			2	1	6	554 00		16	161	89	139	23,490 00
1900			15	34	24	4,930 00									15	34	24	4,930 00
1901			3	16	16	2,039 25		1	7	2		502 75		-1	-4	14	16	1,536 50
1902		4	4	11	8	1,530 00			4	4	4	679 00		4		7	4	851 00
Total	1	20	413	151	418	60,089 50		1	13	7	16	2,164 75	1	19	400	144	402	57,924 75
			1003 Machines						37 Machines						966 Machines			

NOTE.—Messrs. Smith & Zimmer declare that the infringement first started in the drills shipped them in December, 1898, and ceased in April, 1901.

The figures for that period are as follows:—

1898			44		47	5,205 00					2	143 00			44		45	5,062 00
1899		16	163	90	145	24,044 00			1	1	6	503 00		16	162	89	139	23,541 00
1900			15	34	24	4,930 00									15	34	24	4,930 00
1901			3	16	16	2,039 25		1	7	5	1	734 75		-1	-4	11	15	1,304 50
Total		16	225	140	232	36,218 25		1	8	6	9	1,380 75		15	217	134	223	34,837 50
			613						24						589			

SALES OF PEORIA SHOE DRILLS, BY MESSRS. SELBY, STARR & CO., OF PEORIA, ILL., TO SMITH & ZIMMER, OF MINNEAPOLIS, MINN.

Date.	Particulars.	Sizes.	Price	Selling

	24	"	"	.....		11	71 50	786 50
					11		57 75	635 25
March	2	"	"	.....	2		57 75	115 50
						1		71 50
	3	"	"	.....	7		57 75	404 25
						3	71 50	214 50
	13	"	"	.....		7	71 50	500 50
					9		57 75	519 75
						5	71 50	357 50
	29	"	"	.....	16		57 75	924 00
						5	71 50	357 50
April	1	"	"	.....	15		57 75	866 25
						5	71 50	357 50
Sept.	2	"	"	.....		1		71 50
		Total, year 1897			1 87	61		9,440 75
1898								
Jan.	13	Smith & Zimmer, Minneapolis, Minn.....				7	66 00	660 00
					4	3	53 50	214 00
	27	"	"	.....		10	66 00	660 00
					10		53 50	535 00
Feb.	14	"	"	.....	8		53 50	428 00
						8	66 00	528 00
	23	"	"	.....	6		53 50	321 00
	24	"	"	.....	18		53 50	963 00
						5	66 00	330 00
March	1	"	"	.....	2		53 50	107 00
	1	"	"	.....	5		53 50	264 50
						1	66 00	66 00
		Forward			53	34		5,079 50

LIST OF SALES OF PEORIA SHOE DRILLS TO SMITH & ZIMMER, MINNEAPOLIS, MINN.

Date		Particulars			Sizes 13	17	20	22	Price Each	Selling Price
1898		Forward				58		34		5,179 50
March	3	Smith & Zimmer, Minneapolis, Minn				2			53 50	107 00
								2	66 00	132 00
	3	"	"	.....		2			53 50	107 00
	7	"	"	.....		4			53 50	214 00
								10	66 00	660 00
	10	"	"	.....		8			53 50	428 00
								10	66 00	660 00
	12	"	"	.....		2			53 50	107 00
								2	66 00	132 00
	15	"	"	.....		2			53 50	107 00
								1	66 00	66 00
	17	"	"	.....		7			53 50	374 50
								3	66 00	198 00
								15	66 00	990 00
	19	"	"	.....		4			53 50	214 00
								10	66 00	660 00
	25	"	"	.....				18	66 00	1,188 00
						1				53 50
April	2	"	"	.....				10	66 00	660 00
						10			53 50	535 00
Nov.	15	"	"	.....				1		63 00
						1				51 00
Dec.	6	"	"	.....				13	63 00	819 00
						4			51 00	204 00
	10	"	"	.....				12	63 00	756 00
						12			51 00	612 00
	22	"	"	.....				10	63 00	630 00
						15			51 00	765 00
								12	63 00	756 00
	24	"	"	.....		13			51 00	663 00
Nov.	1	"	"	.....		1				51 00
								1		63 00
		Total, year 1898				141		164		$18,105 50

LIST OF DRILLS SOLD TO SMITH & ZIMMER.

Date		Particulars	Sizes 13	17	20	22	Price Each	Selling Price
1899								
Jan.	26	Smith and Zimmer				2	63 00	126 00
				7			51 00	357 00
					2		59 00	118 00
			1					41 50
Feb.	4	" "				4	63 00	252 00
				7			51 00	357 00
					6		59 00	354 00
				3			51 00	153 00
	4	" "		3			51 00	153 00
					1		59 00	59 00
						2	63 00	126 00
	11	" "		3			51 00	153 00
	13	" "				22	63 00	1,386 00
	15	" "		45			51 00	2,295 00
						13	63 00	819 00
	18	" "				1		63 00
					4		59 00	236 00
				3			51 00	153 00
				4			51 00	204 00
	21	" "		6			51 00	306 00
						1		63 00
	21	" "		4			51 00	204 00
						1		63 00
					1			59 00
	28	" "		11			51 00	561 00
					3		59 00	177 00
			1					41 50
						1		63 00
Mar.	3	" "			15		59 00	885 00
						1	63 00	63 00

						5			51 00	255 00
							5		59 00	295 00
	13	"	"					10	63 00	630 00
						5			51 00	255 00
							3		59 00	177 00
	13	"	"					9	63 00	567 00
						4			51 00	204 00
							6		59 00	354 00
				Total	7	120	54	67		13,817.50

LIST OF DRILLS SOLD TO SMITH & ZIMMER.

Date		Particulars			Sizes			Price Each	Selling Price
1899				13	17	20	22		
Mar.	16	Smith and Zimmer	Forward.....	7	120	54	67		13,817.50
						1			59 00
	18	" "					10	63 00	630 00
					1				51 00
	23	" "					1		63 00
					4			51 00	204 00
						6		59	354 00
	25	" "					5	63 00	315 00
								41 50	332 00
					1				51 00
						3		59 00	177 00
							5	63 00	315 00
	29	" "			4			51 00	204 00
					1				51 00
							1		63 00
						3		59 00	177 00
	31	" "					1		63 00
							5	63 00	315 00
Apr.	3	" "			11			51 00	561 00
				1					41 50
					1				51 00
						3		59 00	177 00
	5	" "					2	63 00	126 00
Mar.	16	" "			5			51 00	255 00
Oct.	24	" "				1			59 00
							15	63 00	945 00
Dec.	27	" "					1		78 00
					1			60 00	60 00
						2		67 00	134 00
	28	" "					18	73 00	1,314.00
						6		67 00	402 00
	29	" "					14	73 00	1,022 00
					14			60 00	840 00
						11		67 00	737 00
			Total Year 1899.....	16	163	90	145		21,044.00

LIST OF DRILLS SOLD TO SMITH & ZIMMER.

Date		Particulars	Sizes 17	20	22	Price Each	Selling Price
1900							
Feb.	8	Smith and Zimmer.....	2			60 00	120 00
				1			67 00
	10	" "		22		67 00	1,474 00
	15	" "		9		67 00	603 00
	26	" "	2			60 00	120 00
					18	73 00	1,314 00
Mar.	15	" "	2			60 00	120 00
				2		67 00	134 00
					4	73 00	292 00
	19	" "	7			60 00	420 00
					2	73 00	146 00
	23	" "	2			60 00	120 00
		Total, Year 1900	15	34	24		4,930 00
1901							
Feb.	21	" "			1	61 00	61 00
	27	" "			5	61 00	305 00
Mar.	2	" "		7		57 00	399 00
					2	61 00	122 00
	7	" "	1				49 75
				1			57 00
					1		61 00
	15	" "		2		57 00	114 00
					1		61 00
			1				49 75
	25	" "		1			57 00
					1		61 00
Apr.	10	" "	1				49 75
				1			57 00
					2	61 00	122 00
	13	" "		4		57 00	228 00

Total Year 1901.....		3	16	16			2,039 25

LIST OF DRILLS SOLD TO SMITH & ZIMMER.

Date	Particulars	Size 13	17	20	22	Price Each	Selling Price
1092							
Mar. 7	Smith and Zimmer		2			51 75	103 50
				2		59 00	118 00
					1		63 00
		1					42 50
12	" "			3		59 00	177 00
					1		63 00
April 2	" "			2		59 00	118 00
10	" "			2		59 00	118 00
30	" "	3				42 50	127 50
			1				51 75
				2		59 00	118 00
					5	63 00	315 00
					1		63 00
Sept. 15	" "		1				51 75
	Total, year 1902	4	4	11	8		1,530 00

LIST OF RETURNS, ALLOWANCES, ETC., ON PEORIA DRILLS SOLD TO SMITH & ZIMMER.

Date Returned	Particulars	Sizes 13	17	20	22	Price Each	Prices
1898							
Jan. 4	22 shoe " 1896 style "				4	71 50	286 00
June 1	22 " returned				1		71 50
1	22 " "				1		71 50
	Total returns, 1898				6		429 00
1899							
Sept. 1	22 shoe " '99 style " retd.				1		63 00
1	17 " '97 style "		1				51 00
5	22 shoe " '98 style "				5	66 00	330 00
1	20 " retd.			1			59 00
1	17 " "		1				51 00
	Total Returns 1899		2	1	6		554 00
1901							
Feb. 7	17 shoe		7			49 75	348 25
1	13 "	1					40 50
2	20 "			2		57 00	114 00
Shipped on Selby Starr order	.....						
	Total Returns 1901	1	7	2			502 75
1902							
Feb. 3	20 shoe			3		57 00	171 00
1	22 "				1		61 00
May 3	17 "		3			51 75	155 25
1	22 "				1		63 00
2	22 "				2	61 00	122 00
1	20 "			1			57 00
1	17 "		1				49 75
			4	4	4		679 00

LIST OF PARTIES SOLD PEORIA DRILLS IN 1899, AND NET RECEIPTS OF SAME.

Date.	Name.	Shoes. 13	17	20	22		Rec'd.	Sales Bk. Prices.
12-12-98	W. E. Powell & Co., Warren, Minn.		1				$59.22	$70.00
12-12-98	Geo. Campbell, Walhalla, N. D.		1				64.25	70.00
12-12-98	Lerom Bros., Buxton, N. D.		1				70.00	
12-12-98	John E. Paulson & Bro., Hillsboro, N. D.		1				70.00	
12-12-98	O. A. Jacobson, Grafton, N. D.				1		81.00	85.00
12-12-98	F. W. Raynolds, Bathgate, N. D.				1		85.00	
12-12-98	McEwan & Dougherty, Park River, N. D.				1		82.95	85.00
12-12-98	Hamilton Bros., Fisher, Minn.				1		76.50	85.00
12-12-98	Fred Carpenter, Minto, N. D.				1	Ret'd		85.00
12-12-98	F. J. Myra, Emerado, N. D.				1		70.77	85.00
12-12-98	F. M. King & Co., Perulina, N. D.				1		85.00	
12-12-98	Thompson Bros., Bowesmont, N. D.				1		85.50	
12-12-98	S. L. Farnsworth, Gilby, N. D.				1		85.00	
12-12-98	O. H. Johnson, Hamilton, N. D.				1		76.50	85.00
12-12-98	McManners & Cooper, Inkster, N. D.				1		68.00	85.00
12-12-98	Jacob Kern, Portland, N. D.				1		75.70	85.00
12-12-98	James Thompson, Cavalier, N. D.				1		85.00	
12-15-98	Runck & Heumann, Springfield, Minn.				1		76.50	85.00
12-15-98	C. M. Anderson, Canby, Minn.		1				63.00	70.00
12-15-98	O. H. Howe, Renville, Minn.				1		66.11	85.00
12-15-98	Claggett Bros., Montevideo, Minn.		1				59.23	70.00
12-15-98	A. W. Stone, Bird Island, Minn.				1		71.50	85.00
12-15-98	E. J. Moore, Morris, Minn.				1	Ret'd		85.00
12-15-98	Fergus Iron Works Co., Fergus Falls, Minn.				1		80.00	85.00
12-15-98	Allen & Heimer, DeGraff, Minn.				1		76.50	85.00
12-15-98	M. A. Benedict, Enrick, N. D.		1				70.00	
12-15-98	F. W. Webb.				1		79.90	85.00
12-15-98	Works & Eastman, Lamberton, Minn.				1		71.91	85.00
12-15-98	John Young, Arlington, Minn.				1	Ret'd		85.00
[illegible]	[illegible]		1					

12-15-98	John Young, Arlington, Minn.				1	Ret'd			85.00
12-15-98	Heaney Bros., Olivia, Minn.		1					59.00	70.00
12-15-98	A. Parker, Brown's Valley, Minn.				1			85.00	
12-27-98	Brockman & Tasker, Big Stone City, S. D.				1			85.00	
12-27-98	Olof Nelson		1					63.00	70.00
1- 5-99	J. P. Nelson, Fairmount, N. D.				1			85.00	
1-11-99	J. G. Koller, Mankato, Minn.		1					56.00	70.00
1-14-99	Wm. Mass, Webster, S. D.		1					67.48	70.00
1-14-99	Englebert & Schmidt, New Ulin, Minn.		1			Ret'd			70.00
1-23-99	H. Campbell, Redfield, S. D.		1					70.00	
1-23-99	O. A. Fossum, Lily, S. D.		1					59.85	70.00
1-23-99	J. H. Spelling, Litchfield, Minn.		1					59.40	70.00
1-23-99	John Arrowsmith, Holland, Minn.				1				85.00
1 23-99	Anderson & Nelson, Broden, Minn.				1			77.00	85.00
1-23-99	A. R. Swanson, Paynesville, Minn.				1			65.00	85.00
1-24-99	W. E. Dahl, Milton, N. D.				1			73.59	85.00
1-26-99	E. A. Harris, Valley Springs, S. D.		1		1			127.33	150.50
1-27-99	Thompson & Mead, Redwood Falls, Minn.	1	1	2	2			688.52	875.50
1-31-99	A. J. Arnson, Wegdahl, Minn.		1					57.22	70.00
2- 1-99	E. R. Glenn, Garden City, Minn.				1			70.40	85.00
2- 7-99	A. W. Stone, Bird Island, Minn.		5		7			803.00	945.00
2- 7-99	F. W. Webb, Tracy, Minn.		10	6	4			1,240.00	1,514.00
2- 7-99	McIntire Bros., Emery, S. D.		3	1	2			140.00	472.00
2-13-99	H. G. Pritchard, Lake Crystal, Minn.		3					140.00	210.00
2-15-99	J. Dudman & Co., Casselton, N. D.				1			72.00	85.00
2-17-99	J. G. Kolder, Mankato, Minn.				1			71.00	80.00
2-18-99	Henry Luth, Johnstown, N. D.				1			85.00	
2-20-99	Works & Eastenson, Lamberton, Minn.		3	4	1			449.57	611.00
2-21-99	Dale & Cusenger, Fairmount, Minn.		1					58.70	67.00
2-23-99	Peterson & Higgin, Harvy, N. D.				1			85.00	85.00
2-23-99	Rue Peterson & Rue, Amboy, Minn.		1					60.00	70.00
2-23-99	H. D. Oaks, Hartford, S. D.		1		1			317.59	351.00
2-23-99	A. H. Hewett, Arlington, S. D.			1				50.00	76.50
2-24-99	Peterson & Thompson, Volga, S. D.		1					59.40	70.00
3- 1-99	Runck & Heinman, Springfield, Minn.		6	2	1			549.90	663.00
3- 1-99	Englebret & Schmidt, New Ulm, Minn.	1	5	1				396.13	486.50
3- 1-99	Bugbee, Goss & Vincent, Mound City, S. D.		1					59.68	70.00
3- 4-99	G. S. Maynard, Wanbay, S. D.		2					140.00	140.00
3- 6-99	P. J. Fay & Son, Fulda, Minn.		1					58.80	70.00
3- 7-99	Fergus Iron Works, Fergus Falls, Minn.	3	2					312.50	312.50
3- 7-99	Botts & Wegge, Henderson, Minn.	1						57.50	57.50
3- 8-99	C. M. Anderson, Canby, Minn.		10	8				1,231.20	1,332.00
3- 8-99	F. W. Reynolds, Bathgate, N. D.				1			85.00	85.00
3- 9-99	M. J. Jacobson, Wheaton, Minn.		1		4			410.00	410.00
3- 9-99	A. H. Hewitt, Arlington, S. D.		2					118.44	140.00
3- 9-99	Peterson & Thompson		1	1	1			215.20	234.00
3-10-99	Jorgen Boe, Watson, Minn.		2	2				264.24	298.00
3-10-99	Paul C. Jacobson, Sleepy Eye, Minn.		1					59.62	70.00
3-10-99	J. P. Nelson, Fairmount, N. D.				2			170.00	170.00
3-11-99	Paul C. Jacobson, Sleepy Eye, Minn.		2	1				185.28	219.00
3-11-99	Allen Heinner, DeGraff, Minn.		5	5	10			1,361.35	1,595.00
3-13-99	W. J. Heaney, Olivia, Minn.			1				68.00	79.00
3-15-99	T. J. Moore, Morris, Minn.		3	1	4			629.00	
3-15-99	Greene & Leaman, Chokio, Minn.		2	2	5			619.27	723.00
3-16-99	Olof Nelson, Franklin, Minn.		8					477.46	560.00
3-16-99	M. H. Kiff, Tower City, N. D.			1	3			334.00	334.00
3-16-99	Warner Brod, Hankinson, N. D.		2		8			820.00	820.00
3-16-99	W. E. Dahl, Milton, N. D.		3		6			626.60	696.60
3-16-99	Wolf & Torgenson	1						50.00	57.50
3-16-99	F. M. King & Co., Pembina, N. D.			2	3			413.00	413.00
3-17-99	J. H. Spellisey, Litchfield, Minn.			1	1			104.00	161.00
3-17-99	T. R. Glenn, Garden City, Minn.			1				54.40	79.00
3-17-99	John Arrowsmight, Holland, Minn.		4	6					754.00
3-20-99	E. R. Whightman, New Richmond, Minn.			1				71.50	79.00
3-20-99	White Rock Lumber & Hdwe. Co., White Rock, S. D.		1	1	1			234.00	234.00
3-20-99	Hamilton Bros., Fisher, Minn.			20	15			1,002.40	1,354.00
3-20-99	Jacob Kern, Portland, N. D.			1	10			745.16	929.00
3-21-99	A. R. Swanson & Co., Paynesville, Minn.			1	1			110.00	155.00
3-21-99	John H. Spellisey, Litchfield, Minn.								

3- 7-99	**Fergus Iron Works, Fergus Falls, Minn...**	**3**	**2**			**312.50**	**312.50**
3- 7-99	Botts & Wegge, Henderson, Minn.....	1				57.50	57.50
3- 8-99	C. M. Anderson, Canby, Minn.....		10	8		1,231.20	1,332.00
3- 8-99	F. W. Reynolds, Bathgate, N. D.....				1	85.00	85.00
3- 9-99	M. J. Jacobson, Wheaton, Minn.....		1		4	410.00	410.00
3- 9-99	A. H. Hewitt, Arlington, S. D.....		2			118.44	140.00
3- 9-99	Peterson & Thompson.....		1	1	1	215.20	234.00
3-10-99	Jorgen Boe, Watson, Minn.....		2	2		264.24	298.00
3-10-99	Paul C. Jacobson, Sleepy Eye, Minn.....		1			59.62	70.00
3-10-99	J. P. Nelson, Fairmount, N. D.....				2	170.00	170.00
3-11-99	Paul C. Jacobson, Sleepy Eye, Minn.....		2	1		185.28	219.00
3-11-99	Allen Heinner, DeGraff, Minn.....		5	5	10	1,361.35	1,595.00
3-13-99	W. J. Heaney, Olivia, Minn.....			1		68.00	79.00
3-15-99	T. J. Moore, Morris, Minn.....		3	1	4	629.00	
3-15-99	Greene & Leaman, Chokio, Minn.....		2	2	5	619.27	723.00
3-16-99	Olof Nelson, Franklin, Minn.....		8			477.46	560.00
3-16-99	M. H. Kiff, Tower City, N. D.....			1	3	334.00	334.00
3-16-99	Warner Brod, Hankinson, N. D.....		2		8	820.00	820.00
3-16-99	W. E. Dahl, Milton, N. D.....		3		6	626.60	696.60
3-16-99	Wolf & Torgenson.....	1				50.00	57.50
3-16-99	F. M. King & Co., Pembina, N. D.....			2	3	413.00	413.00
3-17-99	J. H. Spellisey, Litchfield, Minn.....			1	1	104.00	161.00
3-17-99	T. R. Glenn, Garden City, Minn.....			1		54.40	79.00
3-17-99	John Arrowsmight, Holland, Minn.....		4	6			754.00
3-20-99	E. R. Whightman, New Richmond, Minn..			1		71.50	79.00
3-20-99	White Rock Lumber & Hdwe. Co., White Rock, S. D.....		1	1	1	234.00	234.00
3-20-99	Hamilton Bros., Fisher, Minn.....			20	15	1,002.40	1,354.00
3-20-99	Jacob Kern, Portland, N. D.....			1	10	745.16	929.00
3-21-99	A. R. Swanson & Co., Paynesville, Minn...			1	1	110.00	155.00
3-21-99	John H. Spellisey, Litchfield, Minn.....			1		68.00	79.00
3-25-99	Stickney & Dahquist, Tantah, Minn.....			1		75.00	75.00
3-25-99	D. M. Smith, Humbolt, S. D.....			2	4	485.00	
3-27-99	R. A. Kirk, Emerich.....		8		8	1,150.00	1,240.00
3-27-99	A. R. Swanson & Co., Paynesville, Minn...			1		65.00	79.00
3-27-99	John H. Spellisey, Litchfield, Minn.....		1			59.40	70.00
3-30-99	Rue Peterson & Rue, Amboy, Minn.....		1	3	1	253.00	392.00
3-30-99	Hamilton Grain & Implement Co., Hamilton, N. D.....				4	299.54	320.00
3-30-99	Rue Peterson & Rue, Amboy, Minn.....				1	71.91	85.00
3-31-99	O. S. Hoskins & Co., Wells, Minn.....		1			70.00	70.00
3-30-99	T. R. Glynn, Molby, Minn.....		4		1	291.84	365.00
3-31-99	Wold & Torgeson, Molby, Minn.....	1				49.00	57.50
3-31-99	Englebert & Schmidt, New Ulm, Minn....		1			60.00	70.00
3-31-99	Thielman Bros.....				1	80.00	
3-31-99	Rue, Peterson & Rue, Amboy, Minn.....				1	71.91	85.00
3-31-99	M. T. Gill, Prescott, Wis.....				2	234.00	
3-31-99	John Dudman & Co., Casselton, N. D.....				12	934.00	1,020.00
4- 4-99	John H. Spellisey, Litchfield, Minn.....				1	85.00	
4- 4-99	Dale & Crissenger, Fairmount, Minn.....			3	3	323.00	
4- 4-99	J. F. Fink, Northfield, Minn.....	1	1			100.37	
4- 4-99	Hamilton Bros., Fisher, Minn.....	1				49.00	
4- 6-99	Edgar Wardwell, Harrisburg, S. D.....		5			291.87	
4-11-99	M. J. Jacobson, Wheaton, Minn.....		1			70.00	
5- 1-99	B. J. Barloch.....				2	143.00	
		10	138	84	169	$25,028.57	

LIST OF PARTIES SOLD PEORIA DRILLS IN 1900, AND NET RECEIPTS OF SAME.

Date.	Name.	Shoes. 13	17	20	22	Rec'd.
9- 7-99	Jno. Gertaken, Richmond, Minn	1				$ 46.00
9- 9-99	P. C. Jacobson, Sleepy Eye, Minn			1		83.00
10-19-99	Olof Nelson, Franklin, Minn		5		1	480.50
12-20-99	Wesner Imp. Co., Litchfield, Minn		1			72.50
1- 3-00	B. W. Cole				1	82.50
1-27	Hamilton G. & Imp. C.				4	247.00
1-31	J. H. Spelliscy			1		81.00
1-31	G. W. Schlottman	1				53.04
2-10	Runck & Heiman		2		1	228.95
2-12	Isaac & Sprechen			1		68.85
2-12	B. R. Lewis Lbr. Co.			1		77.00
2-14	Mahew & Noonan			2	10	1,170.00
2-20	Rue Peterson & Rue			1		88.00
2-24	J. B. Bible		1	1	1	241.00
2-26	E. Pickthorn		1			81.00
2-27	B. W. Cole		2		18	1,621.00
2-27	W. J. Heaney		4	2		427.00
3- 3	Chas. Warner				1	88.00
3- 3	Olof Rigg		2	1	4	579.50
3- 5	Davey & Meyer		2			145.00
3- 5	Chas. Rathke		2			130.50
3- 5	King & Co.			1	1	169.50
3- 5	O. A. Jacobson			3		243.00
3- 7	Jorgen Boe		3	1		298.50
3- 7	Jno. H. Spelliscy		1	4		396.00
3- 9	King & Co.			1	1	169.00
3- 9	G. W. Schlottman		1			65.04

3- 3	Olof Rigg		2	1	4	579.50	
3- 5	Davey & Meyer		2			145.00	
3- 5	Chas. Rathke		2			130.50	
3- 5	King & Co.			1	1	169.50	
3- 5	O. A. Jacobson			3		243.00	
3- 7	Jorgen Boe		3	1		298.50	
3- 7	Jno. H. Spelliscy		1	4		396.00	
3- 9	King & Co.			1	1	169.00	
3- 9	G. W. Schlottman		1			65.01	
3- 9	Simonson & Nelson		3	1		323.00	
3-10	Watson & Chace		1	1		104.00	
3-10	F. Claesgens		1			72.50	
3-13	Isaac & Lars Flo.			2		162.00	
3-16	Hans Lauritsen	1	3	1		323.00	
3-17	M. J. Jacobson		2	2	4	659.00	
3-19	Jno. Johnson		2	3		Consgt.	
3-20	Porter Bros.		7		2	660.60	
3-20	Hamilton Bros.		1	1	8	823.12	
3-23	N. N. Youngman		1			81.00	
3-26	W. R. Williams		2				
3-26	Stickney & Dahlquist			1			
3-28	Stickney & Dahlquist			1		81.00	
3-28	Furnald & Williams	2	1				
3-31	Stickney & Dahlquist			1		81.00	
4- 3	A. R. Swanson	1					
4- 3	Stickney & Dahlquist			1		81.00	
		6	51	36	57	$10,883.60	

LIST OF PARTIES SOLD PEORIA DRILLS IN 1901, AND NET RECEIPTS OF SAME.

Date.	Name.	Shoes. 13	17	20	22	Rec'd.	
1-18	John Listerud, Danube, Minn		1			$ 54.90	$64.00
1-22	C. C. Melsness, Neilsville, Minn			1		75.00	
1-28	C. H. Larson, Nelson, Minn	1				45.00	51.00
2- 9	Geo. H. Brundage, Vesta, Minn		2	4	2	588.00	
2- 4	Plansen & Milsten, Gary, Minn			1		75.00	
2- 8	C. C. Nelsness, Neilsville, Minn		2			122.00	
2-11	Selby Starr & Co., Peoria, Ill	1	4			239.50	
2-12	Selby Starr & Co., Peoria, Ill		3	2		263.25	
2-13	Hennepin Lumber Co		3	3		417.00	
2-16	M. N. Youngman, Hecla, S. D		3	4		492.00	
2-20	McEwan, Dougherty & Schuley, Edinburg, N. D.		1	4	3	577.00	
2-21	Robertson & Smith, Conde, S. D				1	69.30	77.00
2-27	Hans Johnson, Evansville, Minn		1			57.60	64.00
3- 2	C. C. Nelsness, Nelsville, Minn			7	2	658.00	683.00
3-11	T. M. Lewis, Lewisville, Minn		1	1	1	169.10	219.00
3-18	M. N. Fowler, Warner, S. D			4	2	442.00	
3-27	Hennepin Lumber Co			1			
3-27	I. K. Tvedt			1			
3-18	C. H. Chase, South Shore, S. D			1	1	139.50	155.00
3- 1	T. M. Lewis, Lewisville, Minn		1	1	1	72.00	
		2	22	35	13	$4,584.05	



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Circuit Court of the United States,

DISTRICT OF MINNESOTA, FOURTH DIVISION.

DOWAGIAC MANUFACTURING COMPANY, Complainant,

vs.

MINNESOTA MOLINE PLOW CO., ET AL., Defendants,

} IN EQUITY.

STIPULATION.

It is hereby stipulated and agreed that the *prima facie* evidence on the accounting in the case of this complainant against Brennan & Co., Southwestern Agricultural Works *et al.*, pending in the District of Kentucky, may be, and hereby is, admitted into to constitute a part of the *prima facie* evidence of the complainant in the accounting in this case, together with all statements, schedules, exhibits, illustrations, and other matter forming a part of or going with the *prima facie* evidence admitted as above, subject to all objections made or proper to be made to the same, to have the same force and effect in every respect, so far as applicable and pertinent to the issues on this accounting, as if taken and offered herein in the first instance, or *de novo*. Copies of the evidence, statements, schedules, etc., so admitted into this case to be furnished to the counsel for the defendant herein, a reasonable time before the defendants shall be required to proceed with its evidence. In like manner and under the same conditions, the deposition of William H. Taylor taken in the accounting in the case of this complainant against the McSherry Manufacturing Company, pending in the Southern District of Ohio, may be and hereby is admitted into the accounting herein.

It is further stipulated and agreed that should the defendant here-

in hereafter desire to make use of any deposition or depositions taken on the part of the defendant or defendants, in the accounting in the case against Brennan & Co., Southwestern Agricultural Works *et al.*, or in the case against the McSherry Manufacturing Company, it shall be at liberty to introduce a copy of such deposition or depositions, to have the same force and effect as if said deposition or depositions had been taken herein—the defendant herein to designate any deposition or depositions which it may desire to have admitted in as above before the complainant has commenced its rebuttal testimony herein, and such deposition or depositions to be subject to any and all proper legal objections not removed by this stipulation.

FRED L. CHAPPELL,
Solicitor for Complainant.

THOMAS A. BANNING,
Solicitor for Defendants.

DOWAGIAC, June 27, 1905.

Depositions adopted from the case of the *Dowagiac Manufacturing Company* against *Brennan Company, Southwestern Agricultural Works et al.*, pending in the United States Circuit Court for the Western District of Kentucky, in accordance with the foregoing stipulation.

WILLIAM J. WESTERGAARD, being called as a witness for the defendants and duly sworn according to law, deposes and says:

Direct Examination by Mr. Bozeman.

Q. 1. State your name, age, occupation and residence.

A. William J. Westergaard; 39 years old; Valley City, North Dakota; occupation, farmer, hardware and implement dealer.

Q. 2. How long have you been interested in the sale of shoe grain drills?

A. In my own business, since 1898.

Q. 3. What shoe drills did you handle in your business since 1898?

A. Kentucky shoe drills.

Q. 4. Why did you handle the Kentucky make of shoe drills?

MR. CHAPPELL: Objected to as calling for the conclusion of the witness.

BY THE MASTER: I don't think that is material; the objection is sustained to the question in that form.

Q. 5. In the matter of handling these drills, state whether or not you considered the form of the spring pressure or the construction of that part of the machine?

A. I did not.

Q. 6. Who was back of that machine, if anyone?

A. The Deere & Webber Co.

Q. 7. Did you at that time handle their entire line of goods, or did you expect to handle them?

A. I din't, at the time I made contract for the drill, handle the entire line of goods. I bought the first drill from them on the condition that whenever they made a change in the agency I was to have the first show at it.

Q. 8. What was shown you by the agent of Deere & Webber Company as to the construction of their shoe drill at the time you negotiated?

A. All he had at that time was a little small square box with a case, with a portion off this shoe, part of the shank used for showing the detachable heel feature; that was all he had at the time.

Q. 9. Did he talk about the spring pressure device or show you the construction of that part at that time?

A. He did not.

Q. 10. Have you had experience with the use and practical working of these shoe drills in your territory?

A. I have, right on my farm.

Q. 11. Did you also, at any time, have experience with the coil spring pressure device applied to a shoe drill in your territory, used under conditions substantially the same as those under which the flat spring device was used, and if so, what advantages has the one over the other?

MR. CHAPPELL: Objected to as it does not appear at what time experience was had with the coil spring, or whether or not it was a coil spring that was in use during the term of the infringement.

BY THE MASTER: Let the witness answer the question; I will determine later the materiality of the question.

MR. CHAPPELL: Note an exception.

A. I will say I have seen them both work, I don't know as there is very much difference, the coil spring is little bit the best of them. them.

Q. 12. Were you acquainted with the Van Brunt device in your territory during the period of 1898 to 1902?

A. I have seen the Van Brunt, yes, sir.

Q. 13. What are the facts as to the popularity in the trade of that Van Brunt coil spring pressure shoe drill?

MR. CHAPPELL: Objected to as immaterial, it not appearing that the Van Brunt is a patented structure, or open to the public.

BY THE MASTER: Let him answer all these questions.

MR. CHAPPELL: Note an exception.

A. It was at one time considered the most dangerous competitor.

Q. 14. What particular time was that?

A. In 1900 and 1901, until 1902.

Q. 15. In the handling of the flat spring pressure devices, did you have any trouble with any of the parts breaking?

A. The only trouble I had was the hanger iron breaking, the iron fastened on to the frame in front, holds up the spring.

Q. 16. How as to the coil spring pressure device?

A. Have not had any report on breakage so far that I know of, and I am home most of the time.

Q. 17. In the sale or the handling of the Kentucky drills, shoe drills, was there any advantage in the detachable heel feature with the trade?

A. Yes, sir, that was the principal feature which I was selling the drill on, the detachable heel and the mere fact that the drills were sold by the Deere & Webber Company.

Cross-Examination by Mr. Chappell.

X-Q. 18. When did you begin handling the Kentucky spring pressure shoe drills?

A. In spring, 1898.

X-Q. 19. How many did you sell between the years 1898 and 1902, inclusive?

A. I can't state that without looking back to my books and orders, which I have not got here.

X-Q. 20. State it as near as you remember.

A. I wouldn't commence making a guess, I don't remember. Sometimes buy a car and sometimes buy a couple feed drills to put into the car.

X-Q. 21. How many of the detachable heels for the shoes did you ever sell independent of the drills?

A. I should say an average of about anywheres from 150 to 250 a year, that is, not in 1898, because that is the first year I started the trade. Since 1900 I sold about that many, I should say.

X-Q. 22. Did they work all right?

A. Yes, sir.

X-Q. 23. Wasn't there difficulty with their clogging?

A. Never had any complaints.

X-Q. 24. Did you ever see them working in the field on the old drills where they had been put on?

A. Yes, sir.

X-Q. 25. How often?

A. Every now and then, I couldn't say that, I didn't keep track of that.

X-Q. 26. What did these detachable heels sell for, each, to the farmers?

A. 40 cents.

X-Q. 27. Did you ever buy any Dowagiac shoe drills?

A. This year, I didn't buy them, my man at Sanborn, where I have a branch, gave an order for three or four. I was away at the time, he did it.

X-Q. 28. You approved the order on these drills, didn't you?

A. Yes, sir.

X-Q. 29. When was your attention first called to shoe drills of any kind?

A. In 1890, that was the first time my attention was called to shoe drills, then selling for a man I was working for, the Havana press drills.

X-Q. 30. As distinguished from the press drills, when did you first see the shoe drills?

A. In 1890.

X-Q. 31. What shoe drill was that?

A. I think it was the Hoosier.

X-Q. 32. Seen very many of them since?

A. No, sir, seen some, not a great deal because they played out in that country.

X-Q. 33. What was the next shoe drills you noticed?

A. Kentucky.

X-Q. 34. Where did you notice that?

A. Right in my own warehouse I noticed it in the evening. I purchased the first drill in the Kindred Hotel at Valley City.

X-Q. 35. What year?

A. 1898.

X-Q. 36. You mean you had never seen a Dowagiac drill before that?

A. I may have seen a Dowagiac drill before that; I may have seen one; I couldn't tell you.

X-Q. 37. Where did you live from 1890 to 1898?

A. In Valley City.

X-Q. 38. What was your business during that time?

A. Hardware and machinery up to 1894; from 1894 to 1898 it was executor of an estate and hardware alone.

X-Q. 39. Did you own a farm during that period?

A. I did not.

X-Q. 40. Didn't know anything about grain drills during that period?

A. No, sir, didn't pay attention to them at all.

X-Q. 41. You were in the hardware business and did not do any implement business at all?

A. Probably selling a few binders and stock we had on hand. We had no drills, didn't buy any. It was an estate, and I was closing it up.

X-Q. 42. When you bought the Kentucky drill in 1898, you did not know what drills it would compete with?

A. No, sir, I did not.

X-Q. 43. When did you first see a Van Brunt coil spring pressure shoe drill; note that I say *shoe* drill, as distinguished from disk drill?

A. I can't give you the exact date, I know I have seen it.

X-Q. 44. What year, as near as you can remember?

A. I am not going to answer that question, because I can't give you the year.

By the Master: Was it before or after 1898?

A. Seen it since.

X-Q. 45. Ever seen it before?

A. I paid no attention to it to 1898. I was in the estate business, and I paid no attention to machinery.

X-Q. 46. Was it before 1902?

A. It was in between those times; I can't say exactly.

X-Q. 47. Where did you ever have experience with the Van Brunt spring pressure shoe drill?

A. Never had experience with it.

X-Q. 48. How did you happen to know its being the best drill?

A. Because my customers all talked about it, and that was the only drill I had to compete against.

X-Q. 49. Then what you know about it was from hearsay, was it not?

A. Yes, sir, the recommendation of the farmers, recommending to their neighbors to buy that drill, best drill.

X-Q. 50. Was that the Van Brunt shoe drill or disk drill?

A. Shoe drill.

X-Q. 51. What farmers did you hear recommend it?

A. I couldn't give you the names. They would come into the office quite often and talk it over and discuss it.

X-Q. 52. No way of our getting at that to review it in any way?

A. I don't know that there is.

X-Q. 53. You mean to say that you didn't get into competition with the Dowagiac shoe drill in your town?

A. Once in a while, not a great deal.

X-Q. 54. Who handles the Van Brunt shoe drills in Valley City?

A. It used to be the Pioneer Implement Company, it is now the firm of Flora & Towne.

X-Q. 55. Are Flora & Towne successors to the Pioneer Implement Company?

A. Yes, sir.

X-Q. 56. Who handles the Dawagiac drills in Valley City?

A. Codding & Emery.

X-Q. 57. What prices did you sell the Kentucky shoe drills at to farmers?

A. Any price up to $115, sometimes more.

X-Q. 58. How low a price did you sell them at; I refer particularly to the 22 shoe size?

A. About $112.50, $110 spot cash, $115, according to the length of payments, two or three years' time.

X-Q. 59. Ever sell any for less than $110?

A. Not to my knowledge.

X-Q. 60. Don't remember?

A. No, sir.

X-Q. 61. How did that price compare with the price that the Dowagiac and the Van Brunt were reported as selling at?

A. I don't know; it was a little bit higher, if anything. I know I am not any lower than they are. In fact, last two years got more for my drills than before.

X-Q. 62. What price did you pay for Kentucky spring pressure shoe drills during the period 1894 to 1902, inclusive, taking 22-shoe size?

A. I can't tell you here what I paid for my drills up to 1902, because I didn't bring my contracts, and didn't take the trouble of looking over the invoices. Couldn't state here what I paid for them from 1898 to 1900; I didn't look it up.

X-Q. 63. You have no way of refreshing your recollection on that?

A. I can't remember so far back.

X-Q. 64. Did you ever buy any Van Brunt drills?

A. No, sir.

X-Q. 65. What coil spring pressure shoe drills did you have experience with, and at what time?

A. Coil spring, the Kentucky in 1904 and 1905.

X-Q. 66. Did you ever see a coil spring Kentucky shoe drill before that time?

A. No, sir, I don't know as I did.

X-Q. 67. Did you ever see a coil spring pressure shoe drill made by the Kentucky people called the Dexter?

A. No, sir.

X-Q. 68. What were the coil spring pressure shoe drills that you are familiar with in your territory from the time you began handling shoe drills up to 1902?

A. I don't know of any other than the Van Brunt.

X-Q. 69. The Van Brunt is a patented drill, is it not?

A. I can't tell you, never looked at it.

MR. BOWMAN: I object to this question.

BY THE MASTER: He can get the witness' opinion on that. There is got to be some other proof on whether the patent is in force at the time, etc.

X-Q. 70. You are an agent of the Deere & Webber Company, or the dealer handling their goods?

A. Yes, sir, their complete line.

X-Q. 71. Deere & Webber are a Minneapolis concern?

A. Yes, sir; I buy from Minneapolis.

Re-Direct Examination by Mr. Bowman.

R-D. Q. 72. You referred to having some Dowagiac spring pressure rod drills on sale; did you have any Kentucky coil spring shoe drills on sale at the same time?

A. You mean at Sanborn?

R-D. Q. 73. Yes.

A. At Sanborn I did, this year.

MR. CHAPPELL: Objected to as not being material, subsequent to the infringement period.

BY THE MASTER: I think all these matters coming subsequent to the infringement period are not material.

A. My man gave an order for the Dowagiac, either three or four drills, and at the same time I had five Kentucky coil spring 1905 steel shoe drills, and one of my customers who had previously given an order for a Dowagiac, when he saw the Kentucky set up took that in preference. I sold the Kentucky drills before I sold all the others.

BY THE MASTER: Have the testimony go in subject to the objection.

R-D. Q. 74. Referring to the year 1905, were the conditions different, if any, from those in 1898 to 1902?

A. The trade has increased the last few years. My trade has kept increasing every year. I had a bigger demand in 1905 than I had in 1904.

R-D. Q. 75. As to the sowing in the Northwest and the conditions under which the sowing is done and the requirements of the grain drills, is there difference in 1905 from what they were in 1898 to 1902?

A. I don't know as there is a great deal; there may be a little difference.

R-D. Q. 76. Do they sow in wet ground in the spring of the year?

A. Yes, sir.

R-D. Q. 77. Have they done that continuously from 1898 to 1905?

A. Yes, sir.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 78. Were the Kentucky drills that you sold at Sanborn shoe or disk drills?

A. Shoe drills.

R-X. Q. 79. Did you sell any Kentucky disk drills there?

A. I think I sold one.

R-X. Q. 80. How did the price of the Kentucky coil spring shoe drill compare with the price of the Dowagiac drill of the same size when you retailed them?

A. I have got as much for the Kentucky as I do for the Dowagiac.

R-X. Q. 81. Can you state exactly what the prices were?

A. I cannot state that without the sale books.

R-X. Q. 82. You only state your general impression on that?

A. I know we did. I was there when the price was made out. I believe the price was $2 higher on the Dowagiac than the Kentucky drill.

R-X. Q. 83. Do you know that your man sold at that price?

A. Yes, sir; he is not allowed to sell under.

R-X. Q. 84. Who is the man?

A. Tom Nesbitt.

R-X. Q. 85. Is he at Sanborn yet?

A. Yes, sir.

BY THE MASTER: Are you speaking now of comparative prices in 1905, or comparative prices from 1898 to 1902?

A. As I understood it I was asked in regard to 1905, the year I handled the Dowagiac drill; I never sold it before.

MR. CHAPPELL: Signature is waived in the presence of the opposing counsel and the master.

LESLIE STINSON being called in behalf of the defendant and duly sworn, deposes as follows:

Direct Examination by Mr. Bowman.

Q. 1. State your name, age, occupation and residence.

A. Leslie Stinson; 44 years old; machinery business; reside at Grand Forks, N. D.

Q. 2. You were referred to in the deposition of Mr. Swayne as a competitor of the Dowagiac Manufacturing Company and in connection with testimony where he spoke of the competitors selling the Kentucy drill, or purchasing the Kentucky drill, because of its imitation of the Dowagiac and cheapness in price as compared with the Dowagiac; is that true?

A. I don't think so.

Q. 3. What is the true statement of the case?

A. The first reason, because it was in Deere & Webber's line of goods, was the first reason why I handled it. That is, I wanted the Deere & Webber line of goods, and that line included the drill.

Q. 4. Did the spring pressure device cut any figure in the matter with you?

A. Not at all.

Q. 5. What, from your experience with the sale of Kentucky shoe drills and the handling of them during 1894 to 1902, or any part of that time, would you say that the pressure device of the flat spring character cut in the trade?

A. I don't know as it cut any figure at all in our trade; that is, I would say by that that I don't know as it cut any.

Q. 6. In the sale of the Kentucky drill, or the handling of it, was the flat spring pressure device a talking point?

A. I don't know as it was, nothing special.

Q. 7. What were the talking points?

A. Steel frame, detachable heel, chain drive, general construction, general appearance of the drill.

Cross-Examination by Mr. Chappell.

X-Q. 8. How long have you been in the implement business at Grand Forks?

A. I think seven years.

X-Q. 9. How long have you been familiar with seeding conditions in the Northwest?

A. About 35 years.

X-Q. 10. At what place were you prior to engaging in business at Grand Forks in the implement business?

A. I was a traveling salesman over the Northwest.

X-Q. 11. For whom?

A. Different concerns for 20 years.

X-Q. 12. What did you have to do with seeding machinery?

A. Nothing particularly.

X-Q. 13. Did you sell seeding machinery at all?

A. No, sir.

X-Q. 14. What did you sell?

A. Sold binders, sold thrashing machines.

X-Q. 15. When did you first notice the Dowagiac shoe drill?

A. That is a hard question to answer. I noticed it when it came on the market 15 or 17 years ago, something like that.

X-Q. 16. What was used before that?

A. Broadcast seeder principally.

X-Q. 17. What was the next shoe drill you noticed after the Dowagiac?

A. I noticed several, if my memory serves me right. Several came on the market at the same time, Superior, Van Brunt, there might be others.

X-Q. 18. You paid no particular attention to their workings at that time?

A. I think that is true.

X-Q. 19. When did you begin giving special attention to grain seeding machinery?

A. Probably 10 or 12 years ago.

X-Q. 20. What led you to do that?

A. I was always opposed to the hoe drill, never could see any points in its favor.

X-Q. 21. Why were you opposed to it?

A. Because I always thought a shoe drill was better because it does not cultivate, just simply makes a mark and plants the seed in the earth.

X-Q. 22. What points are you familiar with the farming in the Northwest?

A. That is a broad question. I was born in the Northwest and I am here yet and I covered it from New Orleans to Winnepeg. I might say here Minneapolis to Casselton and Southern Minnesota, might say Kansas.

X-Q. 23. I will ask another question, where did you ever do any farming in the Northwest?

A. At Morris, Minn.

X-Q. 24. Any other place?

A. I left a farm there, I have been out on it every year since, but not to do the work and remain there myself.

X-Q. 25. Did the farmers use hoe drills in your vicinity down there at Morris, Minn.?

A. They did, and on top of that I started a hoe drill trade at Grand Forks.

X-Q. 26. When and how many hoe drills did you sell there?

A. Probably sold a dozen.

X-Q. 27. When?

A. That would run from about 1900 and 1901 and 1902, about those years.

X-Q. 28. Will you please give the names of some of the farmers to whom you sold the hoe drills that time?

A. I believe I could; I remember one man particularly is John Peterson, East Grand Forks, Minn.

X-Q. 29. Can you furnish a complete list of names and addresses of the people that purchased hoe drills of you at Grand Forks?

A. I presume I could.

X-Q. 30. Will you do so?

A. The greatest objection to that would be this, that about two weeks ago yesterday we had a fire and destroyed all the records prior to this year's business; everything that was outside of our safe was burned two weeks ago yesterday.

X-Q. 31. Who sold Dowagiac shoe drills up to and including the year 1902 at Grand Forks, that you know of?

A. Steven Collins.

X-Q. 32. What other drills were competing with the Kentucky shoe drills at Grand Forks up to 1902 that you are familiar with?

A. There was the Superior, Van Brunt and Monitor, and Fountain City; that is all I remember at the present time. I think the McSherry was sold there one year.

X-Q. 33. You refer to shoe drills here or to shoe and disk?

A. I presume one of those might have been a disk drill, most of them, I think, were shoe drills.

X-Q. 34. Which was the disk?

A. I think the McSherry was a disk at that time.

X-Q. 35. How about the Superior, was that a disk or a shoe drill?

A. I think that was a disk, too.

X-Q. 36. Wasn't the Monitor drill sold at that time a double disk?

A. I don't know whether they had a disk at that time or not. I wouldn't say that they had.

X-Q. 37. Which was your strongest competitor at Grand Forks on the Kentucky shoe drills up to 1902, inclusive?

A. I could not answer that question truthfully because I don't know that I knew any difference from any or either of them.

X-Q. 38. Did you get out among the farmers very much making sales?

A. Yes, sir, I did.

X-Q. 39. Who sold the Van Brunt spring pressure shoe drill up to 1902 at Grand Forks, from the time you first knew about it at Grand Forks?

A. 1898 and 1899, I think, was the first two years I was in business, those two years I handled it, my firm did.

X-Q. 40. Why did you change to the Kentucky shoe drill?

A. Because Deere & Webber Company, of Minneapolis, was behind the Kentucky drill, the principal and only reason.

X-Q. 41. Did you sell more Kentucky drills than you did the Van Brunt?

A. Those two years we had a transfer contract with the Van Brunt people, I don't remember how many we did handle, transfer and sell.

X-Q. 42. Have a transfer contract with the Deere & Webber Company?

A. Yes, sir.

X-Q. 43. So I suppose you don't remember how many you sold of the Kentucky up to 1902 from year to year?

A. No, sir.

X-Q. 44. I suppose you are unable to state what prices you paid?

A. I am unable to state what price I paid for them.

X-Q. 45. Are you able to state what prices you received for the 22 shoe Kentucky drill from the farmers?

A. Yes, sir, I think about $115 to $120 and $125.

MR. CHAPPELL: Signature of the witness to this deposition waived in the presence of the master and the opposing counsel.

JOHN H. ROBERTS, being called in behalf of defendants and duly sworn, deposes as follows:

Direct Examination by Mr. Bozeman.

Q. 1. What is your name, age, occupation and residence?

A. John H. Roberts; 28 years old; farmer; Amenia, N. D.

Q. 2. Have you had any experience in the operation of shoe drills in North Dakota?

A. Yes, sir.

Q. 3. Have you had any experience in the operation of what was known as the flat pressure, flat spring pressure device for a shoe drill?

A. Yes, sir.

Q. 4. When and where?

A. That was about in 1902, at Amenia, on the farm.

Q. 5. What were the conditions under which they were used, the conditions of sowing that year, if you remember?

A. It was very wet, the soil was.

Q. 6. What has been, from your experience, the condition of sowing in the Northwest in the years 1898 to 1902?

A. I don't just recollect, I couldn't say.

Q. 7. Has it been generally the same?

A. Generally the same, yes, sir.

Q. 8. How as to the years 1902 to 1905?

A. It has been wet.

MR. CHAPPELL: Objected to as being immaterial.

Q. 9. Have you had occasion to use, side by side with the shoe drill using the flat spring pressure device, one using a coil spring

device, operating under the same conditions, here in the Northwest?

A. Yes, sir.

Q. 10. When and where?

A. About two yars ago, and this year, too, we used them side by side.

Q. 11. From your observation and your experience, what do you say as to the relative advantages of these two forms of devices?

A. I should say that the spring was my choice, the spiral spring.

Q. 12. For what reason?

A. On account of its being a direct pressure over the heel of the shoe and more simple.

Q. 13. What make of shoe drill have you used in 1902 and 1904?

A. Kentucky.

Q. 14. State whether it is a fact or not, or if any one feature of that drill is the most important part of the drill?

A. Oh, I should say the most important feature is the direct pressure over the heel of the shoe and more simple, about all I can say.

Q. 15. Do you remember when you bought the Kentucky shoe drill with the coil spring device, whether you had an opportunity to buy another kind of drill at a less price or not?

A. Yes.

Q. 16. Please state the facts.

A. We had a chance to buy the Dowagiac for less money.

Q. 17. And how much more, as matter of fact, did you pay for the Kentucky?

A. We paid $10 more for the Kentucky than we could get the Dowagiac for.

Q. 18. Why did you pay the difference?

A. We preferred the Kentucky on account of the detachable heel shoe feature, and we had one Kentucky, so we bought another one to correspond with the one rather than to have two unlike machines.

Cross-Examination by Mr. Chappell.

X-Q. 19. Where did you have an opportunity to purchase the Dowagiac drill for less price?

A. In Castleton.

X-Q. 20. Who was the party?

A. McEachan & Churchill were selling the drills.

X-Q. 21. Who was the agent there for the Dowagiac at that time?

A. McEachan & Churchill.

X-Q. 22. When was this?

A. Two years ago.

X-Q. 23. Was that a new or second-hand drill?

A. A new Dowagiac.

X-Q. 24. And you are sure that you are not mistaken about the name of the agent?

A. I don't think I am; I have known them for years.

X-Q. 25. Did they have more than one Dowagiac on sale?

A. Yes, sir; there were several drils there.

X-Q. 26. Are these drills that you refer to shoe or disk drills?

A. Shoe drills.

X-Q. 27. Why did you purchase shoe drills?

A. Liked them the best.

X-Q. 28. When did you first see a coil spring pressure Kentucky shoe drill?

A. In 1904.

X-Q. 29. Did you ever see a coil spring pressure drill like it before?

A. I can't say that I have.

MR. CHAPPELL: Signature of the witness to his deposition is waived in the presence of the master and the opposing counsel.

LOUIS W. WIEMAN being called in behalf of defendant and duly sworn, deposes as follows:

Direct Examination by Mr. Bowman.

Q. 1. What is your name, age, occupation and residence?

A. Louis W. Wieman; 27; hardware and implement dealer; Donnybrook, N. D.

Q. 2. How long have you been interested in the shoe drill trade?

A. Since 1902, and including 1902.

Q. 3. How big a territory or locality have you covered in your drill trade in North Dakota in 1902?

A. Our territory is about 24 miles one way and about 15 the other way.

Q. 4. Did you sell or handle a Kentucky shoe drill having a flat spring pressure device in 1902 in that territory?

A. Yes.

Q. 5. Have you operated that territory since 1902 continuously?

A. Yes, sir.

Q. 6. You may please explain what were the requirements of your trade, drill trade, in 1902, as compared with the years 1903 and 1904.

A. In 1902 that country up there wasn't settled quite as thick as during 1903 and 1904.

Q. 7. What were the conditions or requirements of the drill demanded by your trade in 1902, as compared with 1903 and 1904?

A. Not quite as many drills sold that year as in 1903 and 1904.

Q. 8. What were the conditions of sowing and the requirements in that respect in 1902, as compared with 1903 and 1904?

A. They were wet, as it generally is in the Northwest.

Q. 9. Would you say that the conditions were any different in 1902 than in 1903 and 1904?

A. No, sir.

Q. 10. Did you handle in that territory and have experience

with a shoe drill having coil spring pressure device of the Kentucky make in 1903 and 1904?

A. Had it in 1904.

MR. CHAPPELL: Objected to as immaterial.

BY THE MASTER: Same ruling as before to apply to the whole line of testimony.

Q. 11. From your experience what would you say were the commercial advantages of the flat spring pressure device compared with the other in the territory that you have operated?

A. As much as I find the coil spring is more adjustable and gives better satisfaction than the flat spring.

Q. 12. What difficulty in your territory in the practical or commercial use of the shoe drill did you have with the flat spring pressure device?

A. They broke quite often; we would have to replace them.

Q. 13. Please explain as to the commercial value or the profitableness of the one device as compared with the other in your handling of it, whether the flat spring was more profitable to you, or the coil, or *vice versa*.

A. The coil spring was.

Q. 14. Why?

A. We took the coil spring because I thought it was a better spring; we got just as good a price for it, and a better price than we did for the flat spring.

Q. 15. How as to the price you paid for the coil spring compared with the flat spring?

A. Paid same price.

Cross-Examination by Mr. Chappell.

X-Q. 16. When did you first see a Kentucky shoe drill coil spring?

A. 1904.

X-Q. 17. When did you first see a shoe drill with a coil spring of any kind?

A. I don't remember that.

X-Q. 18. What parts of the flat spring construction would break?

A. Break most any place, middle or any place.

X-Q. 19. It was the spring that would break, and not the other parts; is that right?

A. It was the spring.

X-Q. 20. Who was the Dowagiac agent at Donneybrook, if there was any, in 1902?

A. Jay England had a branch house there from Kenmare.

X-Q. 21. What was the principal drill in competition with the Kentucky in 1902?

A. The Dowagiac, Van Brunt and Monitor.

X-Q. 22. What were these drills, shoe or disk drills?

A. Shoe drills, mostly.

X-Q. 23. Who handled the Van Brunt?

A. Sherman Bros. & Company.

X-Q. 24. Who handled the Monitor?

A. The same man that handled the Dowagiac, J. England.

X-Q. 25. That was a Monitor double disk that he handled, not the Monitor shoe; isn't that right?

A. It is both.

X-Q. 26. Sure about the shoe?

A. Yes, sir.

X-Q. 27. Whom did he sell the Monitor shoe drill to, if you remember?

A. I couldn't remember.

X-Q. 28. How many Monitor shoe drills do you think you saw displayed?

A. I couldn't say that.

X-Q. 29. Did you see the stock of drills that he had on hand?

A. No, sir.

X-Q. 30. How did you know that he sold the Monitor shoe drills?

A. I knew he had them, I didn't see the stock, I knew he had the sample.

X-Q. 31. You saw the sample, did you?

A. Yes, sir.

X-Q. 32. Where was that located?

A. At his place.

X-Q. 33. How many sample drills were there set up?

A. I don't remember.

X-Q. 34. Did he have a sample Dowagiac shoe drill set up?

A. I don't remember that either.

X-Q. 35. How many Kentucky shoe drills of the flat spring structure did you sell in the year 1902?

A. I don't remember; I have not got it with me.

X-Q. 36. Do you remember what you paid for them? If so, state it in 1902 for the 22 size.

A. 22 size in 1902 paid $80.10, 2 off Nov. 1st, 10 off June 1st.

X-Q. 37. What price did you sell those shoe drills to the farmers, the 22 size?

A. The 22 size on time we got $120.

X-Q. 38. What did you get cash?

A. 10 off.

X-Q. 39. When did you first have experience in the shoe grain drill business?

A. 1901.

X-Q. 40. Where did you have that experience?

A. Up at Donnybrook.

X-Q. 41. What shoe drills did you have experience in then?

A. With the Indiana.

X-Q. 42. Who manufactured the Indiana shoe drill?

A. I bought them from the "Northwestern" people, I don't know who manufactured them.

X-Q. 43. You mean the Northwestern Implement and Wagon Company?

A. Yes, sir.

X-Q. 44. What kind of a spring was there on this Indiana shoe drill for applying pressure to the shoes?

A. I don't know; I just sold two or three of them, I think. I don't remember what kind of a spring they had.

X-Q. 45. Why did you discontinue the Indiana and take up the Kentucky?

A. The Indiana did not give good satisfaction.

Re-Direct Examination by Mr. Bowman.

R-D. Q. 46. You refer to your price on 22 shoe drills as being $80.10; do I understand a discount was taken off of that, or was that the net price?

A. That was the net price.

R-D. Q. 47. You have taken that off when you gave the net price, $80,10?

A. No, sir.

R-D. Q. 48. Do I understand that you took 10 per cent. off of the $80.10?

A. Yes, sir; that was $80.10 Nov. 1st, 2 dollars off Nov. 1st and June 1st, 10 per cent. off.

R-D. Q. 49. Supposing you paid June 1st?

A. Then there would be $2 off, and 10 per cent, $80.10.

R-D. Q. 50. And this $80.10 that you give as the net price you call it June 1st with another discount if you paid June 1st?

A. Yes, sir.

R-D. Q. 51. You didn't explain as to the delivery on that price, what your delivery was, where the machine was delivered?

A. It is Minneapolis delivery.

R-D. Q. 52. And you paid the freight from Minneapolis?

A. Yes.

R-D. Q. 53. Do you know, on the 22 shoe, how much freight you paid?

A. 46 cents a hundred, weigh somewheres around 1,700 pounds.

BY THE MASTER: With the exception of the few Indianas you have mentioned, was the Kentucky the only drill you handled?

A. I sold the Ohio too.

MASTER: How many shoe drills have you sold altogether since you have been in business approximately?

A. That would be four seasons, I have not got it down, must be between 25 and 30.

R-D. Q. 54. How many of these were coil spring Kentucky shoe drills?

A. Out of 30 there would be about 16 or 18.

MR. CHAPPELL: Signature waived of witness to his deposition in presence of counsel and master.

JAMES S. BROSNAHAN, being called in behalf of defendant and duly sworn according to law, deposes as follows:

Direct Examination by Mr. Bowman.

Q. 1. What is your name, age, occupation and residence ?

A. James S. Brosnahan; 47; machine business and hardware; Langdon, N. D.

Q. 2. How long have you been acquainted with the seeding or use of wheat drills, particularly shoe drills, in this state of North Dakota?

A. Since I have been in the business at Langdon.

Q. 3. How long have you been in the business at Langdon?

A. Two seasons, year and a half.

Q. 4. What years?

A. 1904 and 1905.

Q. 5. What experience did you have prior to that?

MR. CHAPPELL: Objected to as being immaterial, does not reach the infringement period.

A. There in business five years prior to this, two years in Langdon.

Q. 6. Did you have any experience handling shoe drills during these years in North Dakota?

A. Yes, sir.

Q. 7. What is the fact as to demands or requirements in the

Northwest for a wheat drill, during the period that you have been in business; that is, whether the requirements have been the same each year or not, or substantially so?

A. They have not.

Q. 8. Please explain as to the conditions that have to be met in the sowing.

A. At first they used the shoe drills and then they changed to the disk drills.

Q. 9. I am asking more particularly as to the conditions of use, the character of the soil, whether wet or dry, or hard or soft, and whether during the period from 1901 to 1905 it has been the same or not?

A. The conditions have been about the same, so far as the soil is concerned. Some seasons the ground got very hard; such a season the disk drill was preferable; should the ground be soft and mellow the shoe drill is the best.

Q. 10. As a matter of fact, comparing the years 1900 and 1904, or 1903, do you recall that there was any material difference?

A. Those years there was a bigger demand for disk drills than anything else, in 1903 and 1904, although in both of those years there was some demand for shoe drills, but principally for disk drills.

Q. 11. Do you think that the soil or conditions were any wetter one year than the other in those particular years?

A. I don't know as it was very noticeable in that respect, although in 1903 it was pretty wet in the spring; then the ground got very hard.

Q. 12. Compare the year 1904 with the year 1900, or years before that?

A. About the same.

Q. 13. Have you used, or had experience with the use, of the flat spring pressure shoe drill device of the Kentucky make in soft and hard ground?

A. Not much.

Q. 14. Have you had experience in the handling of it for the territory where this condition existed?

A. At one time, not in the years you mention.

Q. 15. What time?

A. First time I sold this was in 1899 and 1900; since that time I have not sold any.

Q. 16. Have you had any experience in selling the Kentucky shoe drill with the coil spring pressure device for sowing under like conditions as that?

A. Yes, sir, but not very many, because since that time we have used the disk drills altogether.

Q. 17. Have you observed them in use, the coil spring pressure devices?

A. Yes, sir.

Q. 18. Have you observed the flat spring pressure device in use?

A. Yes, sir.

Q. 19. From your experience what would you say were the advantages, if any, in the pressure device of the one over the other for the shoe drill territory?

A. I don't think there is any difference, so far as the pressure is concerned. I never noticed in the selling of them particularly; the question never came up with me.

Q. 20. What has been the talking point?

A. On the Kentucky shoe drill the principal talking point that I talked was the detachable heel and the strength of the steel frame, solid square frame, and the rigidity of the hopper or box that the seed grain is in. Also about that time what is known as the chain feed came into use; that was quite a strong talking point. Also the adjustable washer on the feed shank.

Q. 21. Do you remember as to the traveling men who represented the Kentucky drill, whether they carried a spring pressure device, or some other part of the drill?

A. I never seen the spring pressure part of it. I have seen this detachable heel shoe; they used to carry that in a box and show that.

Q. 22. Was that shown you when you took up the drill and decided to handle the drill?

A. Yes, sir, we always kept a sample also in the store.

Cross-Examination by Mr. Chappell.

X-Q. 23. Did you have trouble with the flat springs breaking on the Kentucky shoe drill?

A. No, sir.

X-Q. 24. When did you first see a Kentucky shoe drill with a coil spring pressure device?

A. I think it was two years ago.

X-Q. 25. Where were you in business for the five years prior to your beginning business at Langdon, N. D.?

A. At Grafton, N. D.

X-Q. 26. Who, if anyone, was your associate there?

A. Mr. Webber, of Deere & Webber, was a special partner with me in business; he had a certain amount of money invested as special partner.

X-Q. 27. Who interviewed you first about coming here to testify to-day?

A. Deere & Webber asked me to come, that is all; I never was interviewed except by letter.

X-Q. 28. What was your strongest competition in shoe drills at Langdon, N. D.?

A. The Van Brunt.

X-Q. 29. Who was the Van Brunt agent?

A. Kelly & McLaughlin.

X-Q. 30. Wasn't the Dowagiac shoe drills among your strongest competitors at that time?

A. No, sir, not at Langdon.

X-Q. 31. Why was the Van Brunt a strong competitor, was the price lower?

A. I don't think it; I don't think that was the reason.

X-Q. 32. Both the Van Brunt and the Kentucky were sold for less money than the Dowagiac?

A. Not that I know of.

X-Q. 33. When did you first become familiar with the Dowagiac shoe drill with a rod spring pressure?

A. I presume it was in 1899, when I started at Grafton; I never paid much attention to it.

X-Q. 34. What was your strongest competition at Grafton?

A. The Van Brunt.

X-Q. 35. Who was the Dowagiac agent at Langdon?

A. McLaughlin Machine Company.

X-Q. 36. Who was the Dowagiac agent at Grafton?

A. Hendrickson & Olson.

X-Q. 37. What drill was sold in the largest quantities, or seemed to be most generally in use in the territory about Grafton, while you were there?

A. The Kentucky had the biggest trade while I was there, more of them sold than any other drill.

X-Q. 38. What was in use by the farmers, Kentucky or Dowagiac, or some other drill?

A. You refer to just while I was in business?

X-Q. 39. No, what you observed while you was there.

A. All I could observe is what I seen people take out of town while there; those were the most drills went out.

X-Q. 40. Why were there more Kentucky drills sold than any other kind?

A. I don't know as I can answer that clearly, unless it was because we pushed them harder than the other drills.

X-Q. 41. State how many Kentuckys were sold each year, both at Grafton and also at Langdon, while you were there during this infringement period, up to and including 1902.

A. I don't know as I can give you the exact number. In 1899, the first year I went to Grafton, I think we sold 29 drills. 1900 was the dry year and a very light trade, I think we sold 19 that year. 1901 was an average year, we sold about 24, I think. 1902 there was a change made there, I consolidated then with Hendrickson & Olson. That year we sold, I believe we sold about 16 drills.

Those years there was not the demand for the drills that there was prior years.

X-Q. 42. Who was the Van Brunt agent at Grafton?

A. O. A. Jacobson.

X-Q. 43. How many of the detachable heels do you think you have sold for the Kentucky shoe drills?

A. That would be pretty hard to answer. All the Kentucky shoe drills that I sold were detachable heels, possibly there was one or two that wasn't detachable, otherwise all detachable heels. About that one or two I have reference to, some drills I took on from a former agent, possibly there might have been one or two of those on his hands and I sold them; I am not clear on that point.

X-Q. 44. How many of the heels did you sell for substitution, independent of the drills?

A. On the average every year that I was at Grafton, possibly sold enough to replace two drills, not to exceed two drills.

X-Q. 45. Did you get any extra price on account of the detachable heel from the farmers?

A. We got the regular price we asked on the drill, as I never had any of the other drills that question never came up.

X-Q. 46. What price did you pay for Kentucky shoe drills with flat spring pressure device?

A. I don't recollect that now.

X-Q. 47. Have you no memorandum with you that would refresh your memory?

A. No, only for 1904, possibly 1903; I think I have a memorandum of those two years.

X-Q. 48. What price did you sell to farmers up to 1902?

A. We got $115 as a regular time price, $110 cash.

X-Q. 49. Was this for the 22 shoe?

A. That varied a little; we had 20 and 22, I think. We asked for the 22, $120, and $115 for the others. Where they paid spot cash, $5 difference. Those prices were never kept just to the letter; sometimes variations in the price.

X-Q. 50. When was the Kentucky shoe drill introduced at Grafton, if you know?

A. I couldn't tell you, it was being sold there when I went there.

X-Q. 51. I suppose you don't know when it was introduced at Langdon, either?

A. No, sir.

X-Q. 52. The competition that you refer to as to the Van Brunt, was that Van Brunt shoe or disk drills?

A. Both.

X-Q. 53. Which was the strongest, Van Brunt shoe or disk?

A. It would depend on the year, as to the season. Since the disk got into use the disk was the strongest.

X-Q. 54. When was the disk brought in?

A. Disk drills brought in along in 1900 or 1901.

X-Q. 55. Did they cut much figure on the shoe drills?

A. Oh, yes.

X-Q. 56. Were they as strong competition on the shoe drills as the Dowagiac?

A. Where I have been in business they have been stronger.

MR. CHAPPELL: Signature of the witness to this deposition is waived in the presence of the master and counsel.

ALBERT F. SNELL, being called in behalf of defendant and duly sworn, deposes as follows:

Direct Examination by Mr. Boxman.

Q. 1. What is your name, age, occupation and residence?

A. Albert F. Snell; 50; agricultural implements; live at Lakepark, Becker County, Minn.

Q. 2. How long have you been connected with the implement business, particularly grain drill business in the Northwest territory?

A. Twenty-five years on the sixth day of the coming January. We had the whole territory from Moorehead to Frazee City; cov-

ered that whole territory; office in Moorehead and one in Clinton.

Q. 3. As an implement dealer state whether or not you have been in touch with the seeding of wheat and the conditions under which wheat has been sown in this Northwest territory.

A. I think I have.

Q. 4. In the territory that you are familiar with in the Northwest, what are the facts as to the conditions of seeding wheat the past year or two compared with the previous ten years?

A. I don't think much change in the conditions.

Q. 5. What are the requirements for a drill in the territory that you are familiar with as to character of ground it is used in?

A. The drill must sow in any land that the farmer has, whether upland or lowland, hard or sticky, if they expect to do business.

Q. 6. Do you have places where the sowing is in soft and hard, also in wet and dry soils?

A. Yes, sir, all those conditions, probably not a place in the State of Minnesota that there is as much gumbo and hard to work in as around Lakepark; it is not so bad around Detroit.

Q. 7. Did you, in the period from 1894 to 1902, have occasion to sell a shoe drill employing a coil spring pressure device, and if so, with what success?

A. Had good success, always worked satisfactorily.

Q. 8. Can you indicate from your memory what year between 1895 and 1902 you had your best trade?

A. I think it must have been about 1894 to 1896, along there in those years; it might have been a year later or earlier, I can't tell exactly. I remember one year we sold 110 drills. They were not all Van Brunt, we had some of those that were Buckeyes and Hoosier, and a drill called the Rival, manufactured by Johnson.

Q. 9. From your observation and experience what would you say as to the subsequent years, from 1897 or 1898 to 1902, whether you have held your own in that territory or not?

A. I think I have; yes, sir.

Q. 10. What other drills have been your strongest competitors?

A. We have not had any strong competitors at all; the Dowa-

giac people came in there, I think, about four or five years ago and they put a few of the cheap machine drills on the market and they run one or two years and then they were out practically. They haven't had an agent there for three or four years.

Q. 11. Did you ever hear of the Van Brunt claiming to have the patent on the coil spring?

A. No, sir, I never heard it.

Q. 12. I show you a cut at page 3 of this exhibit "Kentucky Drill Co.'s Catalogue," showing a shoe and coil spring, and ask you if the principle of operation was in the Van Brunt substantially the same or different from that?

MR. CHAPPELL: Objected to as improper, witness testifying about the Van Brunt. It is suggested that he better produce a cut of that drill, rather than compare it with something else which it is not.

BY THE MASTER: I think he can answer that; objection is overruled.

MR. CHAPPELL: Note an exception.

A. The principle, I should say, was just the same, with the exception that this Kentucky attaches its spring near the heel, while the Van Brunt has always been attached to the inner part of the shoe, just in front of the conduit, and the lever passes under the box and catches up under the shackle here and throws it down into the front of the shoe.

Q. 13. From your experience with these shoe drills employing a flat spring pressure like the Dowagiac and one employing a coil spring like the Van Brunt, would you say that the coil spring or the flat spring is to be preferred, or what are the differences?

A. That is a hard question for me to answer. I don't know as it would make very much difference whether flat or coil spring, both seem to work and give fairly good satisfaction either way.

Cross-Examination by Mr. Chappell.

X-Q. 14. What flat spring pressure shoe drill are you familiar with?

A. Never sold any flat spring pressure. I saw them in the field. I have sold a few Havanas, they have a flat pressure spring.

X-Q. 15. What makes of shoe drills have you handled during the period 1894 to 1902, inclusive, indicating the years in which you have handled them and about how many you have handled?

A. I have handled the Van Brunt almost exclusively, but have always kept a few Hoosiers in stock. They don't sell in my territory very much; we didn't carry them much.

X-Q. 16. Does the Hoosier have a coil spring?

A. Yes, sir, all of the later drills have coil springs.

X-Q. 17. How about the earlier ones?

A. The earlier ones did not have.

X-Q. 18. How were the springs arranged?

A. It was a coil spring, a little kink in it; worked entirely different; it didn't have the long coil spring like the Van Brunt and other drills.

X-Q. 19. Didn't they have a spring in which a pair of rods connected with the draw-bars and extended rearwards, therefore connected on the draw-bars like levers?

A. Yes, sir, seemed something on the same principle as the Dowagiac, used a round spring similar to the one that the Dowagiac drill has.

X-Q. 20. What drills were in competition with you in the territory you covered?

A. There was the Monitor, and I don't remember just what drills. Dowagiac was sold. I have sold a few Dowagiac myself.

X-Q. 21. From whom did you purchase the Dowagiac you sold?

A. From the general agent here at Fargo.

X-Q. 22. When?

A. Along about 1894 or 1896. I don't remember just exactly what year. We only handled them one year, I think.

X-Q. 23. Please give the bounds of the territory which you covered with your various mercantile establishments, so far as grain drills are concerned?

A. West half of Becker county and east tier of townships in Clay county.

X-Q. 24. How large a territory is that?

A. Not large, about twenty miles east and west, probably the same the other way.

X-Q. 25. At what place are the other Dowagiac drills sold in that territory?

A. I don't think they are sold there at all in that territory, unless Mr. Wackman of Detroit handles them.

X-Q. 26. Is not the Van Brunt structure a patented structure?

A. I couldn't tell you that.

X-Q. 27. In conjunction with the Van Brunt spring pressure device is there not a means for raising and lowering the front end connection with the draw-bars to the shoes?

A. There are some of the shoes, there was a notch, not all years. At first they didn't have them; afterwards they used a notched caster with two swivels on each side that could be changed.

X-Q. 28. Can you state how many Van Brunt shoe drills you have sold?

A. I could not do that.

X-Q. 29. How many Monitor shoe drills with the coil spring pressure device were sold in your territory, more or less than you sold?

A. I should say less.

X-Q. 30. Very many less?

A. Quite a few, I think.

X-Q. 31. When were the last Monitor shoe drills with coil spring pressure device sold in your territory that you know of?

A. I think there has been some shoe drills sold there within the last four years.

X-Q. 32. What was the Buckeye construction, who made that?

A. I don't know, Buford & Perry; those are the people I bought them from.

X-Q. 33. What construction pressure device was there in the Rival?

A. A spring pressure, similar to the other drills; the Dowagiac, Van Brunt and all the rest of them had the coil spring, attachment

was on the outer edge of the shoes, similar to the one on the Dowagiac.

X-Q. 34. Do you own a farm and operate a farm?

A. No, sir.

X-Q. 35. Do you know about the operations of these drills on a farm from a practical farmer's standpoint?

A. Only what I hear the farmers say.

X-Q. 36. When did you first see a Kentucky drill with the coil spring pressure device?

A. It has not been very many years that I paid much attention to it.

X-Q. 37. How extensively were the Kentucky drills sold in your territory?

A. Not very many.

X-Q. 38. Who was the agent?

A. There was a man by the name of Higley and Weegan, I think they were the first to handle it there.

X-Q. 39. Who asked you to come here to testify?

A. The Great Northern Implement Company.

X-Q. 40. At what price do you sell a 22 shoe Van Brunt drill to the farmers?

..A. I don't sell any 22 shoe Van Brunt drills.

X-Q. 41. What size do you sell?

A. 12, 14, 15 and 17 and 20. I think maybe I have sold one or two 22 shoe drills since I have been in the business; 20 is as large as we get in our country, mostly 17s.

X-Q. 42. You don't remember what the price is on the 22 to the farmers?

A. Price will be about $130 for the 22.

X-Q. 43. Is that a disk or shoe drill?

A. Same price for single disk or shoe drill; wouldn't make any difference.

X-Q. 44. What price do you receive for the 17?

A. $90.

X-Q. 45. Any discounts for cash?

A. $5.

X-Q. 46. What do you pay for the 17s?

A. I don't believe I will answer that question unless I have to.

MR. BOWMAN: I don't see why you ask that question.

BY THE MASTER: I can't see that it is material whether he sold a Van Brunt drill at a greater or less price.

A. $67 for the 17 shoe; I know I can buy Hoosier or any of them better. We simply had the trade because the drill was right and done the business.

X-Q. 47. Did you ever negotiate for the purchase of any other drill than the Van Brunt?

A. We have sold some others.

X-Q. 48. You couldn't buy them for as low a figure as the Van Brunt?

A. Yes, sir, I could buy them a good deal lower.

X-Q. 49. What drills could you buy for less money?

A. I could buy the Hoosier, I think I could buy the Kentucky, buy the Dowagiac.

X-Q. 50. Ever try to buy the Dowagiac?

A. I have bought them for less money than the Van Brunt.

X-Q. 51. Who from?

A. The general agent here at Fargo.

X-Q. 52. In what years?

A. I can't tell you that; along about 1894, somewheres around there.

X-Q. 53. The drills you bought were the Michigan drills?

A. No, sir, they were not the Michigan drills.

Re-Direct Examination by Mr. Bowman.

R-D. Q. 54. You have spoken about the Rival drill having, as I understand, a coil spring or a spring coiled like the Dowagiac; please explain.

A. Not coiled like the round coil spring that was attached back, a coil just the same as used on the Van Brunt, and as used now on the Kentucky.

Re-Cross Examination by Mr. Chappell.

R-D. Q. 55. How many Rival drills did you ever sell?

A. Sold five; it took me pretty near that many years to sell them. The shoe wasn't right. I went to Minneapolis and bought five Rival drills for spot cash; I got them up there and they would not clean up the land. They changed the shoes for me and they worked a little better. In changing them they didn't get the bar right, couldn't raise them high enough. I had a good deal of trouble with those drills.

MR. CHAPPELL: Signature of the witness to his deposition waived in the presence of counsel.

At this time adjournment of the taking of the deposition was had until 9:30 July 14, 1905.

At 9:30, July 14, 1905, met pursuant to adjournment. Parties present as before.

ELLEF ELLIS, being called in behalf of defendant and duly sworn, deposes as follows:

Direct Examination by Mr. Bowman.

Q. 1. What is your name, age, occupation and residence?

A. Ellef Ellis; 45; agricultural implements; Hallock, Minn.

Q. 2. How long have you been interested in the agricultural implement business in the Northwest?

A. About fifteen years.

Q. 3. How long have you been interested in the sale of shoe grain drills?

A. About the same length of time.

Q. 4. What is the fact, Mr. Ellis, as to the character of the soil and the requirements of seeding in the Northwest the past three years, compared with previous years?

A. The conditions are about the same, I think; I don't think there has been any material change.

Q. 5. Please explain, during the period of 1894 to 1902, whether you had experience with the handling and sale of shoe drills employing coil springs for pressure device?

A. Yes, sir.

Q. 6. Please state what years you handled such a device during that period, 1894 to 1902.

A. We handled them from 1894 to 1902, all those years.

Q. 7. Please state whether you handled the Van Brunt coil spring shoe drills.

A. I did.

Q. 8. Please state what is the fact as to the saleability of that Van Brunt coil spring shoe drill in your territory during 1894 to 1902.

A. The Van Brunt drill had a big sale during those years, as big as any of the drills.

MR. CHAPPELL: I wish to object to the line of questions as being immaterial.

BY THE MASTER: Same ruling as before.

MR. CHAPPELL: Note an exception.

Q. 9. Was the Dowagiac rod pressure shoe drill sold during that time in your territory?

A. Yes, sir.

Q. 10. What is the fact as to which shoe drill had the lead, or was more saleable in your territory?

A. I think the Van Brunt had the lead probably, with the exception of one year.

Q. 11. What year was that?

A. Year 1900.

Q. 12. What as to the year 1900 as to the circumstances under which the Dowagiac shoe drill was sold, whether there was anything to account for its being sold largely that year?

A. Yes, the cut in price.

Q. 13. What is the fact from your experience in that territory as to whether flat spring pressure makes a drill saleable or not?

A. I don't think the flat spring pressure has anything to do with the saleability of the drill.

MR. CHAPPELL: This is objected to as being immaterial, neither the Dowagiac nor the Van Brunt have a flat spring.

Q. 14. Please explain your reasons for that statement.

A. The coil spring is located directly over the heel of the shoe, while the other pressure device is located at the front end of the draw-bars of the shoe, and for that reason I think the coil spring has a little more pressure than the rod pressure has.

Q. 15. Have you had experience and known of the Kentucky shoe drill with a flat spring pressure device?

A. Yes, sir.

Q. 16. Have you known as to the saleability of that device?

A. Yes, sir.

Q. 17. What, from your experience in that territory, would you say as to whether that Kentucky shoe drill with the coil spring instead of a flat spring would affect this saleability?

MR. CHAPPELL: Objected to for the reason heretofore stated, immaterial, a matter coming subsequent to the infringement period.

BY THE MASTER: Same ruling.

MR. CHAPPELL: Note an exception.

A. The coil spring sold just as well as the flat spring.

Cross-Examination by Mr. Chappell.

X-Q. 18. When did you first learn of the Dowagiac drill?

A. I couldn't state the year, but I have seen the Dowagiac drill about 1892 or 1893.

X-Q. 19. When did you first learn of the Van Brunt?

A. 1889.

X-Q. 20. When did you first learn of the Kentucky?

A. 1896.

X-Q. 21. Will you please state how many of these different grain drills, I refer to shoe drills, you have sold from time to time and in connection with your business at Hallock, Minn.?

A. Commencing when?

X-Q. 22. Since you have been in business there.

A. From 1890 to 1894 I think probably we sold—would average anyway from ten to fifteen drills per annum, and from 1894 to 1905, would average from twenty to twenty-five.

X-Q. 23. What makes?

A. Previous to 1895 we sold the Monitor; 1895 we sold the Van Brunt, and after that we sold the Van Brunt and Kentucky.

X-Q. 24. How many Van Brunts and how many Kentuckys?

A. From 1895, 1896 and 1897 we sold, I think—average about twenty Van Brunts, and 1896 and 1897 we had those two years six Kentucky, three each year; 1898 we had half and half, twelve of each; 1900 we had seventeen Van Brunt and ten Kentucky; 1901 we had six Kentucky and ten Van Brunt; 1902 we had fifteen Kentucky and ten Van Brunt; 1903 we had fifteen Kentucky and ten Van Brunt; 1904 we probably had about half and half.

X-Q. 25. Were these all shoe drills?

A. No, sir, they were not.

X-Q. 26. How many of them were shoe drills?

A. Up to 1902, I think, they were practically all shoe drills; after that mostly all disks.

X-Q. 27. You say in 1900 there was a cut in the price?

A. Yes.

X-Q. 28. Just how much?

A. About $10 on the 22 shoe, and about $6 on the 20.

X-Q. 29. What sizes of drills were these that you sold?

A. Mostly 20 and 22, the majority of them. There were some smaller sizes.

X-Q. 30. Why did you discontinue the Monitor?

A. Because there was a defect in the shoe and in the lifting device.

MR. BOWMAN: You letter explain what you mean.

A. The furrow opener.

X-Q. 31. What was the defect about the shoe?

A. It clogged up in the heel.

X-Q. 32. You know why they did that?

A. Yes, sir, there was not cut out enough. The steel blades projected too far back, I think, if I recollect right.

X-Q. 33. How did you like the springs on the Monitor?

A. Springs were all right.

X-Q. 34. Didn't you have a good many calls for new sets of springs for the Monitor?

A. No, sir, I dont' think I did.

X-Q. 35. Don't remember, do you?

A. I wouldn't be positive, but I don't think I had very many calls, if any.

X-Q. 36. You are not aware, then, that the general agent here in Fargo kept a large quantity of the Monitor springs on hand to supply the farmers and dealers?

A. No, sir.

X-Q. 37. Don't know whether that is so or not?

A. No, sir.

X-Q. 38. How do you know there was a cut in the price on Dowagiac shoe drills in 1900?

A. The Dowagiac representative told me so.

X-Q. 39. What representative was that?

A. H. C. Malmstrom, and I think also Mr. Anderson, the Dowagiac man that was up there, told me, and I also had it from customers that they quoted prices to.

X-Q. 40. Who was the agent for the Dowagiac Company at Hallock at that time?

A. Mr. Malmstrom acted as their agent. The drills were sold direct; they paid him so much for each drill sold there.

X-Q. 41. Any Michigan drills sold there?

A. I don't know what a Michigan drill is.

X-Q. 42. Did you see any of the Dowagiac contracts with anybody who had purchased drills, so as to know exactly what the cut was?

A. I never saw any Dowagiac contracts.

X-Q. 43. All you know about it is what somebody told you; is that right?

A. What the Dowagiac people told me, the Dowagiac representative.

X-Q. 44. The Dowagiac people trying to sell you the goods when they told you that?

A. No, sir.

X-Q. 45. How did you come to be talking with them about it?

A. Because I went to them and asked them why they didn't keep up prices on the drills.

X-Q. 46. And what reason did they give for not keeping up the price?

A. They said, we will sell the drills at whatever we like.

X-Q. 47. Didn't give any reason?

A. No, sir.

X-Q. 48. And then you say they told you just how much the cut was?

A. They told me what they were selling for.

X-Q. 49. At what price were shoe grain drills of 20 and 22 size sold by yourself and the Dowagiac Company in that year, 1900?

A. Our prices were $100 on the 20 shoe drills and $110 on the 22. Dowagiac prices were $94 on the 20 and $100 for 22.

X-Q. 50. What induced you while you was handling the Van Brunt shoe drills to take up the Kentucky shoe drill in the year 1896, or when you first took it up?

A. One reason was because it was handled by Deere & Webber Company; we bought all our stuff from Deere & Webber Company, and took their drills for that reason, and the drill has also other special features for which we took it.

X-Q. 51. What were the other special features that led you to take the Kentucky?

A. One thing was the general appearance of the drill, the finish, nice finish, and all steel frame construction, hinged axle boxes and adjustable pulley hitch, notched washers on the feed shanks to take up the wear, chain drive, drive located under the hopper instead of the ends; other features which I can't remember now.

X-Q. 52. Anything about the shoe or the spring?

A. There was nothing particular about the shoe when it first came out, until 1898, when the detachable heel came out; that was another feature.

X-Q. 53. Ever explain to the farmers that they could turn the flat spring over when it got bent, and in that way renew its strength?

A. No, sir.

X-Q. 54. Springs used to break a good deal on the Kentucky coil spring?

A. A few of them broke.

X-Q. 55. Indicate the prices which you paid for the Kentucky drills, whether those prices were more or less than you paid for the Monitor or Van Brunt?

A. The Van Brunt and Kentucky prices were practically the same. Might vary a few cents, not to amount to anything. I couldn't compare with the Monitor prices, because I think the prices changed after we quit handling the Monitor.

X-Q. 56. Pay more or less, do you think, for the Monitor?

A. I think the prices went down on drills.

X-Q. 57. The question was, did you pay more or less for the Monitor than you did for the others?

A. I think the drills were higher at the time when we handled the Monitor.

X-Q. 58. Who handles the Monitor at Hallock; who handled it there just after you handled it?

A. The Monitor is not handled there at the present time.

X-Q. 59. Who handled it there after you handled it?

A. Westerson & Johnson.

X-Q. 60. What drill are Westerson & Johnson handling now, and what did they handle after they handled the Monitor?

A. They have gone out of business, dissolved partnership.

X-Q. 61. When did they go out of business?

A. I think about two or three years ago.

X-Q. 62. What drill did they handle after they had handled the Monitor?

A. I think they handled the Dowagiac one year and handled the McSherry.

X-Q. 63. After they handled the Monitor, who handled it there?

A. Nobody.

X-Q. 64. Please indicate the exact price you paid for the Kentucky shoe drills with the flat springs up to the year 1902, taking the 22 shoe as the typical size.

A. I think we paid $88, except in 1900, when they were $93.

X-Q. 65. Any discounts from that; what were the terms?

A. That was Nov. 1st, terms 10 per cent. discount June 1st.

X-Q. 66. Have you the contracts with you?

A. No, sir.

X-Q. 67. Got the contracts for the Kentucky drills with you for any dates between 1894 and 1902?

A. No, sir.

X-Q. 68. You have to speak from memory about this, do you?

A. Yes, sir.

X-Q. 69. What was the exact price you paid for the Van Brunt drills, take the 22 size?

A. Practically the same price.

X-Q. 70. Don't remember the exact price; what were the terms and discounts?

A. Terms and discounts about the same.

X-Q. 71. Don't remember them specifically, however?

A. Yes, sir.

X-Q. 72. Which drill was your strongest competitor in the shoe drill line?

A. I think the Dowagiac was.

X-Q. 73. What was it that you had to talk against about the Dowagiac to make your sales, if anything?

A. I think the shape of the shoe more than anything else.

X-Q. 74. What was there about the shape of the Dowagiac shoe that made it a point for discussion?

A. They used the short shoe blade and then they rounded it a good deal on the heel; that made it desirable.

X-Q. 75. Anything about the shape of it?

A. I presume probably that had something to do with it, too.

X-Q. 76. What peculiarity in the shape was it?

A. I couldn't explain that to you.

X-Q. 77. When did you first see the Kentucky with the coil spring on the shoe?

A. I think it was a year ago.

X-Q. 78. Where is the link connected that applies the pressure to the Dowagiac shoe, in front or back of the boot?

A. I think it is in front.

X-Q. 79. That is, on the sides towards the horse; is that right?

A. Yes, sir.

X-Q. 80. Don't the rods extend back each side of the boot and isn't the link connected back of the boot in place of in front of it?

A. I guess perhaps I didn't understand your question right. I thought you meant where they got their pressure from.

X-Q. 81. I asked where the link is connected?

A. That is connected back or on the side of the boot. I don't know which.

X-Q. 82. The adjusting lever back of that pulls the link down at that point?

A. Yes, sir.

X-Q. 83. Why isn't that point where the pressure is applied?

A. I presume it is.

X-Q. 84. Did you ever try to buy the Dowagiac shoe drills?

A. No, sir.

X-Q. 85. They have no doubt seen you and tried to sell you shoe drills?

A. I think I talked with the representative, yes, sir.

X-Q. 86. Why didn't you buy the Dowagiac?

A. Couldn't tell you the reason; I don't remember why I didn't.

X-Q. 87. Wasn't the price too high for one thing?

A. Not to my recollection.

X-Q. 88. You don't remember what the price was?

A. No, sir.

X-Q. 89. Who requested you to come here to testify?

A. Mr. Webber.

X-Q. 90. of Deere & Webber?

A. Yes, sir.

MR. CHAPPELL: Signature of the witness to his deposition waived in the presence of counsel.

LEE B. HIBBARD, being called in behalf of defendant and duly sworn according to law, deposes as follows:

Direct Examination by Mr. Bowman.

Q. 1. What is your name, age, occupation and residence?

A. Lee B. Hibbard; 47; superintendent on a farm; Bordulac, N. D.

Q. 2. How long have you had experience in farming operations in the Northwest territory?

A. Since 1889.

Q. 3. How long have you had practical experience with grain drills, particularly shoe drills, in the Northwest?

A. The spring of 1891.

Q. 4. What is the fact as to the character of soil and the requirements of seeding during the last two or three years, compared with the ten years preceding that?

A. I should say they were practically the same.

Q. 5. Explain in a general way what the character of the ground is in seeding time that you are acquainted with.

A. You mean the state that we find it in?

Q. 6. Yes.

A. Of course that varies a great deal; this year we had a variation of frost; drill a half a day about. Other years have had a

little wet sometimes, and always some wet in the low sloughs every year, even if we got what we would call a wet spring, only have more of damp ground than we would have in dry.

Q. 7. Have you had experience with the seeding of wheat with a shoe drill employing a flat spring pressure device, and if so, what make of drill?

A. I have had experience, and also with the Kentucky drill.

Q. 8. Have you had any experience with the Kentucky shoe drill using the coil spring for the pressure device?

MR. CHAPPELL: Objected to as coming subsequent to the accounting period.

BY THE MASTER: Objection is overruled.

MR. CHAPPELL: Note an exception.

A. I have.

Q. 9. Have you had experience with the Kentucky shoe drill employing flat spring pressure device and the coil spring shoe drill working in the same ground and under the same conditions?

A. I have.

Q. 10. What would you say as to the advantages or the disadvantages or the difficulties of the one device compared with the other?

A. I should say that the old-fashioned flat spring has always caused quite a little trouble, where what we used with the coil spring we have had none.

Q. 11. What farmers have you had experience with in the use of shoe drills?

A. My first experience with shoe drills was here on the Agricultural (College) Farm, first foreman there with the Keystone Farming Land Company, the R. W. Jones & Son wheat farm, near Clifford, and at the present time with the Carrington Casey Farming Land Company.

Q. 12. How many shoe drills have you had in use on these different farms?

A. On the Keystone farm we run twenty-one, if I remember right, that time; Jones farm we run twelve, and where I am now we run about twenty-seven and twenty-eight this spring.

Q. 13. What experience have you had as to the advantages or disadvantages of the detachable heel feature of the Kentucky shoe drill?

A. I never found any disadvantage with the removable heel, and I have always found them very handy to remove and sharpen; very little trouble.

Cross-Examination by Mr. Chappell.

X-Q. 14. When did you first see or learn of a shoe grain drill?

A. The spring of 1891. I had seen shoe grain drills before, but had never bumped up against them. The first crop in 1889 put in with broadcast seeders.

X-Q. 15. What drill was it you saw in 1891, and to what extent did you become familiar with it?

A. Not much; I was here in the College Farm that time. I think we bought one drill, a Dowagiac drill, that year.

X-Q. 16. The College farm being the Agricultural College Farm?

A. Yes, sir.

X-Q. 17. What was the next shoe drill you became familiar with?

A. The Kentucky.

X-Q. 18. When was that?

A. I will take that back, it was not the Kentucy the next, it was the old Buckeye was the next shoe drill.

X-Q. 19. Was that what was known as a press drill?

A. Yes, sir.

X-Q. 20. To what extent did you become familiar with that?

A. To the extent that I put in three or four crops, about 5,000 acress in three or four years.

X-Q. 21. Where was that?

A. The Keystone Farming Land Company.

X-Q. 22. How many drills did you use there of the Buckeye?

A. We had either eighteen or twenty.

X-Q. 23. What was the next drill you became familiar with that had a shoe?

A. The Kentucky.

X-Q. 24. To what extent did you become familiar with the Kentucky?

A. To the extent, just traded the old Buckeyes for the Kentuckys, either eighteen or twenty, that we got that spring, and we used them right along, and have ever since.

X-Q. 25. When did you sever your connection with the Keystone Farm?

A. I severed my connection with the Keystone farm when it changed hands, that is, with the old company, but I remained with the new company until this last January.

X-Q. 26. The Keystone farm became known as the Jones farm, did it?

A. No, sir, known now as the Keystone farm, but R. W. Jones & Son own another farm that is near Hankinson, the Keystone farm and the other farm is near Clifford, and I went from Hankinson to the other large farm near Clifford.

X-Q. 27. What drills were used on this other large farm that you just referred to?

A. Kentucky.

X-Q. 28. Did you purchase the Kentuckys for that farm?

A. Only two of them the others were there when I took the farm.

X-Q. 29. What considerations led to the adoption of the Kentucky rather than the continued use of the Buckeye drill?

A. There would be numerous reasons. The Buckeye drills were old-fashioned drills, in a way, outclassed. For one thing, the shoe was more like a sleigh shoe; instead of striking the ground with the heel it would drag more like a sleigh shoe.

X-Q. 30. Any difficulty about clogging?

A. Yes, sir, a great deal about clogging.

X-Q. 31. Have to use more horses on that than on the Kentucky?

A. No, sir, we did not.

X-Q. 32. How long did you continue the use of the Kentucky drills?

A. Using them now.

X-Q. 33. Then in the changes that you speak of as to your employment you have practically held the same position all the way through?

A. No, sir, the Keystone Farming Land Company I was never superintendent, I was in the capacity of foreman. When I went up to the other farm I went there in the capacity of superintendent.

X-Q. 34. How large a farm is this second farm, and just where located?

A. It is located just three miles and a half east and a mile and a half north of Clifford.

X-Q. 35. Where is its relation to Bordulac. I understand your residence to be Bordulac?

A. No relation to Bordulac.

X-Q. 36. What direction from Bordulac?

A. It would be almost due east.

X-Q. 37. How far?

A. About 75 miles.

X-Q. 38. Did you negotiate the trade of the Buckeye drills for the Kentucky drills?

A. No, sir, I did not.

X-Q. 39. Knew nothing about that transaction?

A. Yes, sir, I heard some of the talk; they were trading with a dealer at Hankinson.

X-Q. 40. What dealer?

A. It was Fred Warner.

X-Q. 41. What price was paid for them, if you know?

A. I don't know what the consideration was.

X-Q. 42. What price did you pay for the Kentucky drills that you purchased for these different concerns; I suppose they were all 22?

A. What I bought a year ago I gave $100 apiece for.

X-Q. 43. How many was that?

A. Two.

X-Q. 44. The others purchased, indicate what those were and the amounts paid?

A. I don't remember what I gave this spring for drills.

X-Q. 45. I mean further back; I don't care about the recent purchases, but further back.

A. Those are all that I purchased myself. The Keystone negotiated for some while Mr. Jencke was there, when I went to the other farm a gang of ten. I only bought two.

X-Q. 46. What troubles did you have with the Kentucky drills with the flat spring; you said they were always giving more or less trouble?

A. The flat spring, we would run over a stone—had quite a few stones up there—the shoe happens to hit a stone and it would bend up and throw the end of the spring out simetimes, and also those knobs with the spring set in, we had a great deal of trouble with their breaking.

X-Q. 47. How long did you ever use coil springs for the Buckeye, or wasn't the Buckeye a coil spring?

A. The Buckeye, if I remember right, used a coil spring behind.

X-Q. 48. What experience have you had with coil spring pressures on the modern shoe drills since then?

A. One season's experience.

X-Q. 49. That doesn't give you a chance to determine its durability very much, does it?

A. I don't suppose that it would, although results as they have been so far are very favorable.

X-Q. 50. When did you see a coil spring structure exactly like the Kentucky in all particulars for the first time?

A. This spring.

X-Q. 51. You are familiar with the Van Brunt coil spring shoe drill and Monitor coil spring pressure drill, are you?

A. I am not.

X-Q. 52. Have you had opportunity to observe shoe drills on other farms than those that you have managed to any great extent?

A. No, sir, not to a great extent.

X-Q. 53. What drill do you remember of noticing more frequently of the shoe type?

A. I should say through the country northwest here; see about two of the Kentucky drills to one of most any other make, possibly a little larger average than that.

X-Q. 54. The Kentucky seemed to be a general favorite?

A. Yes.

X-Q. 55. Were not there a large number of Dowagiac shoe drills that you noticed from time to time?

A. Yes, sir; more so a few years a ago; I took notice, for some reason the Kentucky seemed to be taking the place of the Dowagiac gradually in our part of the country.

Re-Direct Examination by Mr. Bozeman.

R-D. Q. 56. Did you yourself ever use any Dowagiacs on any of your farms?

A. Yes, sir.

By the Master: On this farm where you testified there were twenty-one shoe drills in use, what was the spring pressure on these drills?

A. Are you speaking of the Kentucky after we got the Kentucky?

By the Master: After you quit using the first, the Buckeye?

A. They were all coil springs.

Q. On this present farm, where there are twelve in use, what is the pressure?

A. I have eight of the coil spring, and the rest flat.

Q. How long have those coil springs been in use?

A. This last spring, first experience had with them.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 57. About the Dowagiac shoe drills which you say you used on your farm, where were they used and under what circumstances?

A. We had two or three on the Keystone farm, and then the experience I had with them here on the College farm, and also at Carrington, Casey farm; they had two there.

R-X. Q. 58. Know what was paid for those drills?

A. I don't know.

R-X. Q. 59. What seemed to be the matter with them?

A. Which ones?

R-X. Q. 60. The Dowagiac drills, anywhere.

A. Nothing the matter with them.

Re-Re-Direct Examination by Mr. Bozeman.

R-D. Q. 61. You speak of observing or knowing in your neighborhood the Kentucky drills coming largely into use.

A. Yes, sir.

R-D. Q. 62. Do you know why that was true?

A. It must be through some superior quality that was pleasing the farmers.

R-D. Q. 63. Do you happen to know what that quality was, of your own knowledge?

A. The movable heel, where a man has many to sharpen every year, slip the heel off and take it to the blacksmith shop, sharpen very easily, one nice feature of it.

Re-Re-Cross Examination by Mr. Chappell.

R-X. Q. 64. Did the Dowagiac have detachable shoes?

A. I have never seen detachable shoes.

R-X. Q. 65. Wasn't one important consideration that they could buy the Kentucky for less money than the Dowagiac; wouldn't that be a controlling feature with the farmers?

A. I couldn't answer that question, for I don't know what the Dowagiac is selling for; I never inquired the price.

R-X. Q. 66. With a detachable shoe taken off and sharpened there would be no particular advantage in a detachable heel over the entire shoe, would there?

A. I wouldn't say that there would be; results about the same.

R-X. Q. 67. After a shoe has become worn and a new heel is inserted, does it not leave the front of the shoe irregular, so it is likely to pick up trash?

A. Not that I ever knew.

R-X. Q. 68. What experience have you had in putting on new heels?

A. We had new heels on drills every year, two or three of them.

R-X. Q. 69. Never paid any particular attention to see whether that line was irregular above the heel or not?

A. I have taken notice in seeing that they were right in doing the work properly.

R-X. Q. 70. What did the new heels cost?

A. I am not in position to tell you now what they did charge for them.

Rebuttal by Mr. Bozeman.

R-X. Q. 71. With the Dowagiac shoe drills that you were familiar with, what did they have to do to sharpen them?

A. We would have to take the whole shoe off from the frame, take it to the shop and sharpen it.

MR. CHAPPELL: Signature of this witness to his deposition is waived.

GUDBRAND L. ELKEN, being called in behalf of defendant and duly sworn, deposes as follows:

Direct Examination by Mr. Bozeman.

Q. 1. What is your name, age, occupation and residence?

A. Gudbrand L. Elken; 42 years; real estate; Mayville, N. D.

Q. 2. Were you ever engaged in the implement business?

A. Yes, sir.

Q. 3. At Mayville?

A. Yes, sir.

Q. 4. Mr. Swayne, who testified in this case, referred to Elken Bros., at Mayville; please explain who they are.

A. The firm consisted of my brother and myself.

Q. 5. Mr. Swayne in this case testified that Elken Brothers bought the Kentucky drill during the period 1894 to 1902, or some part of it, because it was practically the same structure as the Dowagiac and because they could buy it for less money. Please explain whether that is true or not.

A. We handled two drills during that period. We paid for the Kentucky, except one or two years there were a few cents difference on account of cash discount, we paid more for the Kentucky, and we bought the Kentucky because we wanted two shoe drills, and on account of the general construction of the drill, not because it was the same as the Dowagiac.

Q. 6. What were the features about the drill, the Kentucky drill that you have in mind?

A. It was the general construction of the drill and the appearance of it. Among the features that we considered better was the construction of the hopper on the feed, and the frame of the drill was the main question.

Q. 7. You remember when they came out with the detachable heel feature?

A. Yes, sir.

Q. 8. What year was that?

A. I think in 1898; I am not sure; 1897 or 1898.

Q. 9. What is the fact as to when your large sales on the Kentucky began with reference to the time of their using the detachable heel feature?

A. I couldn't say positive which year we sold the most, but after the detachable heel was used our trade increased on them because it was one of the good talking points on the drills, and for saving in sharpening was used as a selling feature.

Q. 10. Referring to the spring pressure device, from your ex-

perience does it cut much figure what kind of a spring pressure device is used, whether coil spring or flat spring?

A. No, sir, I don't believe so.

Q. 11. Do you know as to the relative weights of the Kentucky and Dowagiac drills, which weigh the most?

A. The 22 shoe Kentucky weighs more by about 85 pounds than the Dowagiac shoe drills.

Q. 12. You don't know as to the other sizes?

A. The 20 shoe is in the same proportion, the Kentucky a little the heavier of the two drills.

Q. 13. Do you know anything as to a drill that was sold during the period from 1894 to 1902, known as the Van Brunt coil spring shoe drill?

A. Yes, sir, sold by our competitors; we had it in opposition.

Q. 14. Was there any trouble or any difficulty with the coil spring pressure device in that drill?

A. Never heard of any.

MR. CHAPPELL: That is objected to as being immaterial.

BY THE MASTER: Same ruling.

MR. CHAPPELL: Note an exception.

Q. 15. From your experience would you say that in your territory, or part of your territory, that that pressure device was satisfactory?

A. Yes, sir.

Q. 16. Referring to the Kentucky drill during the period 1894 to 1902, would you have bought that drill with the coil spring as quickly and at the same price as with the flat spring?

MR. CHAPPELL: Objected to as calling for a mere conclusion of the witness.

BY THE MASTER: I don't see how that is competent just to see what he might or might not have done under different circumstances. The objection is sustained.

MR. BOWMAN: Note an exception.

Cross-Examination by Mr. Chappell.

X-Q. 17. Please state what you paid for Kentucky drills.

A. Can I use memorandum (to the master)?

BY THE MASTER: Yes, sir.

A. I have not gone back further than 1895; 1894 I didn't look up. I have from 1895 up to last year we were in business, 1901. 1895 we paid for the 20 shoe (these prices are all based on cash June 1st, the way we paid for the drills—we paid for them on June 1st or before—based on June prices), 20 shoe cost us on the Kentucky 5 cents apiece more than the Dowagiac, and the 22 shoe cost us 84 cents more, June 1st. In 1895 Dowagiac 20 shoe, $73.75; 22 shoe, $80.16; Kentucky was $73.80 for 20 shoe, and $81 for the 22 shoe. 1896 were the same prices on the Dowagiac; Kentucky shoe cost us $74.10 that year, and the 22 shoe cost us $83.13. The 1897 Dowagiac prices are the same as the former years, and the Kentucky that year cost us just the same to the cent. The Dowagiac price in 1898 was the same; the Kentucky that year, 20 shoe we paid $72.67, or $1.08 less; for the 22 shoe, $79.80, or 36 cents less. In 1899 Dowagiac was the same; Kentucky cost us that year $73.15 for the 20, $80.28 for the 22; 60 cents less for the 20 shoe and 12 cents more for the 22. In 1900 Dowagiac prices are the same, and for the 20 shoe Kentucky we paid $74.02, or 27 cents more; for the 22 shoe we paid $80.01, or 15 cents less. In 1901 the prices on the Dowagiac was $70.71 for the 20, and $78.59 for the 22, and the Kentucky cost us that same year, 20 shoe, $71.28, and 22 shoe $79.38, or 57 cents more for the 20, and 70 cents more for the 22. This is all the years I have got.

X-Q. 18. Can you produce the contracts of purchase of both the Dowagiac and the Kentucky shoe drills during the period when you handled the same?

A. I suppose we have them all; I got a couple of them, each kind, along; my brother picked out some bills during that period. I was very busy. Several years since we quit business. I got a couple of each kind.

X-Q. 19. Produce those that you got, and kindly read from the same the exact terms of the contracts relative to the prices.

Witness produces papers.

A. Kentucky for 1896; haven't any Kentucky for 1895; in 1896, that year we paid for the 20 shoe $78, less 5 per cent. June 1st, and for the 22 shoe, $87.50, less 5 per cent. June 1st. In 1898, 20 shoe was $76.50, less 5 per cent. June 1st, and 22 shoe was $84, less 5 per cent. June 1st. I got bills here showing what we paid during all those years for the Kentucky. If you want the rest of the years please write to the house. I didn't find the contracts for the different years, 1895, 1896, 1897, 1898, 1899, 1900 and 1901, including these two contracts for each year.

X-Q. 20. Kindly produce the bills you have just referred to, so they may be offered in evidence.

A. I do.

NOTE.—Bills referred to by the witness are offered in evidence, with the request they be marked "Complainants' Exhibit Deere & Webber-Elkens Bills numbered from 1 to —."

MR. BOWMAN: There are other goods in these bills, the stenographer ought to copy what is necessary.

BY THE MASTER: Only that much of these bills that refers to shoe drills is necessary.

MR. CHAPPELL: Complainants' counsel states that defendant's counsel may retain possession of these bills on condition that he will produce them for the inspection of complainants' counsel for review by any competent person as to the grain drills billed.

X-Q. 21. If you are able, produce some of the Dowagiac contracts relative to shoe drills during this period; I wish you would please do so, with copies of any bills or papers evidencing the transaction.

A. Here is a contract for 1897, drawn in December, 1896, for the following year, Dowagiac; and here is a contract drawn in 1895 for the following year, 1896.

MR. CHAPPELL: These contracts produced by the witness

I desire to be offered in evidence, and ask that they be marked "Dowagiac-Elken Bills, Numbered 1 and 2," and it is consented that defendant's counsel may retain possession of them on exactly the same terms as the Deere & Webber-Elken bills.

X-Q. 22. Will you please read from the Kentucky contracts the weights of the different sizes of shoe drills?

A. In 1898 the weights given in the contract on the Kentucky 20 shoe was 1,200 lbs.; on 22 shoe, 1,300 lbs.; 16 shoe, 1,000 lbs.; 12 shoe, 700, and then comes another style of drill.

X-Q. 23. Don't care for any other style, just the shoes; do you know whether those were the weights packed ready for shipment, or whether it was the weights of the drills?

A. Those weights do not correspond. When we weighed the drills home, we weighed the drills both of the Kentucky and Dowagiac, because I bought them with the understanding of having the drills laid down; sometimes come in mixed carloads, so we weighed everything to get the exact weight.

X-Q. 24. Have you a list of the exact weights?

A. No, sir.

By the Master: Of the same size, which drill was the heavier, the Dowagiac or the Kentucky?

A. The Kentucky in those years showed themselves a little the heaviest.

By Mr. Bowman: As to those weights, were the drills heavier or lighter?

A. Little bit heavier, I think, as is given in the contract; I wouldn't swear positively to that; a little higher than contract weight.

By Mr. Chappell: X-Q. 25. Did you handle any other goods of Deere & Webber manufacture?

A. Yes, sir, different lines; plows, buggies, cultivators and different other goods.

X-Q. 26. Buy these other goods cheaper than you could buy of other people?

A. No, sir.

X-Q. 27. Any concessions made by Deere & Webber to induce you to take up the Kentucky drills?

A. We didn't find it so; we had to pay more than for any other drill on the market.

X-Q. 28. Any other concessions than those appearing in the contracts?

A. No, sir.

X-Q. 29. You regarded it as quite advantageous on account of Deere & Webber's reputation to handle their whole line?

A. We never did handle the whole line.

X-Q. 30. Who else handled their goods at that place?

A. Nobody; what I meant when you asked whether we handled the whole line, we never handled the whole line of any house exclusively; we picked out the line that we wanted in our trade, and the other lines of that house we didn't carry.

X-Q. 31. Any agreement with Deere & Webber that they should not place their goods in the hands of any other dealer at Mayville?

A. I don't know of any; never considered they would do so.

X-Q. 32. There was a tacit understanding you would handle their goods there?

A. We were their representative there.

X-Q. 33. Deere & Webber were very extensive advrtisers, so there was considerable advantage in handling their goods, as they were thoroughly advertised?

A. I suppose so, still we never considered that; we advertised our goods ourselves; worked in the fields.

X-Q. 34. But Deere & Webber sent out their advertising to all the farmers in the whole territory?

A. No, sir, they sent it to us, and we distributed it.

X-Q. 35. They furnished quite a liberal supply?

A. They all do.

X-Q. 36. Do they not send out considerable matter direct from Minneapolis?

A. They may have for all I know; didn't as far as we knew, in our territory.

X-Q. 37. Who introduced the Dowagiac shoe drill at Mayville?

A. Herton & Elken.

X-Q. 38. Were they the predecessors of Elken Bros.?

A. Yes, sir; not directly, a firm in between, Herton, Elken & Company, but same parties interested.

X-Q. 39. What conversations, if anything, occurred when your concern took up the Kentucky shoe drill in addition to the Dowagiac shoe drill with the representative of the Kentucky drill and your concern?

A. That is more than I can answer. I don't know whether there was any.

X-Q. 40. Was you there at the time?

A. I don't remember that, or who made the contract; either my brother or myself bought the goods, and one acted for the firm as much as the other.

X-Q. 41. When did you first purchase the Kentucky shoe drills?

A. I think it was in 1894, still I would not be positive; 1894 or 1893.

X-Q. 42. When did you begin handling the Deere & Webber line?

A. When Horton & Shultz first started in business, in 1882; they had been handling more or less of their goods when I first came to this country.

X-Q. 43. When did you come to this country?

A. 1889.

X-Q. 44. The firm was handling Deere & Webber's goods then?

A. Yes, sir.

X-Q. 45. Then in order to hold the Deere & Webber line, were they not substantially compelled to put in the Kentucky drills?

A. No, sir.

X-Q. 46. Wouldn't Deere & Webber have placed them in the hands of someone else there if you hadn't taken the Kentucky shoe drills?

A. I don't know; they might have done that; I don't think they would have taken their line away from Elken Bros.

X-Q. 47. What do you know about the Van Brunt coil spring shoe drill, from your own experience with it?

A. Don't know anything about it.

X-Q. 48. What you have testified to is what someone has told you?

A. It was sold by our competitor, and we run in competition with it in talking with the farmers and in selling the Dowagiac and Kentucky.

X-Q. 49. You don't know what prices the Van Brunt are sold for?

A. Practically same retail price as the Kentucky and Dowagiac.

X-Q. 50. Which drill had the largest sale there, the Kentucky, Dowagiac or Van Brunt?

A. The Dowagiac had the largest sale, at least most of the years.

X-Q. 51. Any complaints about the Dowagiac drills?

A. Some complaints on all goods. There is always more or less kicking from farmers that one part is not as satisfactory as it should be, and that you hear about all goods.

X-Q. 52. Any more objections to the Dowagiac than any other of the drills?

A. No, sir, I can't say there was, except one year about some breakages. They used some cast iron pressure clamps, very unsatisfactory, remedied afterwards by malleable.

X-Q. 53. What year was that?

A. In 1891 or 1892, when the first round rod spring were put on.

X-Q. 54. Any other breakages that you remember?

A. Oh, yes, most trouble we had, if you call it trouble, was on the feed shells, the flat part of it was made light, designated them by numbers D60 and 600 in the different years, that was weak.

X-Q. 55. Did you have trouble with the Kentucky flat spring?

A. No, never had trouble with the flat spring.

X-Q. 56. What coil spring drills did you ever handle?

A. We have handled several; we had almost all the drills on the

market. We have handled the Tiger when it first came out, when it had weights on and when it first came out with spring pressure on it. We handled the Farmers' Friend, I think that had a coil spring.

X-Q. 57. How long did you continue to handle the coil spring structures?

A. Off and on different years.

X-Q. 58. When did you handle the last of them?

A. I couldn't say that definitely, I think that was in 1895 or '6.

X-Q. 59. Why did you discontinue them?

A. We always bought some of those drills for competition with our competitors on cheap drills. We didn't consider them first-class on account of the general make-up. We had some hard competition on prices.

X-Q. 60. What were the hard competing drills that were being sold for less money, that you had to meet?

A. The Peoria, the Hoosier, then there was a drill handled at Portland, two miles west of us, also sold at less money than we could afford to sell the Dowagiac and Kentucky, so we got a cheaper drill for this competition.

X-Q. 61. Are these drills referred to with a coil spring on sale in your town now or were they in 1902?

A. I think the Tiger was handled in Portland after we dropped it for two or three years and they may be handling them now.

X-Q. 62. When did you drop the Tiger?

A. I don't remember, 1895 or '6, one of those years.

X-Q. 63. When were they sold after that?

A. Jacob Kern had them for two or three years that I know of, I don't know how much longer he had them.

X-Q. 64. The figures that you have given as prices of Kentucky and Dowagiac are made up from your own calculations?

A. Yes, sir, that is what we paid.

X-Q. 65. You haven't the original documents here further than you have already produced them?

A. No, sir.

X-Q. 66. Did you refer to the contracts yourself in making these calculations?

A. I made these prices right from those bills last night.

X-Q. 67. You didn't make them from the contracts for the other years?

A. Just from these two contracts I had along, I didn't have any others.

X-Q. 68. As to the other years, you speak from memory?

A. No, sir, I took it from the bills.

X-Q. 69. As to the contracts for the other years, you speak from memory?

A. I have not spoken about the contracts except as from the bill, the drill is billed according to the contract prices.

X-Q. 70. You referred to each year's Dowagiac prices and had Dowagiac contracts for only two years, the question is as to the other years, stated from memory, did you not?

A. Yes, sir.

X-Q. 71. Didn't have bills here for the Dowagiac?

A. We have them at home.

X-Q. 72. You didn't refer to those for the figures you gave?

A. Yes, sir.

X-Q. 73. Did you make up the figures?

A. Bookkeeper did, I verified the figures at the office. We had just the two contracts there and were very busy, didn't look for more contracts, didn't know they would be required.

MR. CHAPPELL: The items are objected to as not being the figures exactly taken by the witness.

BY THE MASTER: He said he had verified the figures.

Re-Direct Examination by Mr. Bozeman.

R-D. Q. 74. I call your attention on the Dowagiac-Elkens contract No. 1, the provision in the margin, "Any changes in list prices in 1896, Elkens Bros. to have the benefit." Please explain that.

A. That reefrs to, in case there was talk, they would reduce their list prices in the spring. These contracts were made in fall, in

October, the list prices they thought would be dropped $5. Their list prices is printed right on this contract and was with the understanding that if it was dropped $5 we should have the benefit, although we had given our contract in the fall. In the spring they did drop on the 22 and 26 shoe, $5 apiece. The first car was billed on the old prices, the second car was on the new prices. The second time we got the benefit of the new prices, and the prices I figured there for that year is $125 and $140. I didn't figure the $140, but the $125.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 75. That cut in prices was made to meet the Kentucky?

A. I don't know what they made it for. When we made the contract in October we should have the benefit. My figure is on what it was made in the spring, for $125 for the 22.

MR. CHAPPELL: Signature of the witness to his deposition is waived in the presence of the counsel and master.

CHARLES K. STOCKLUND, being called in behalf of defendants and duly sworn, deposes as follows:

Direct Examination by Mr. Bowman.

Q. 1. What is your name, age, occupation and residence?

A. Charles K. Stocklund; 48 years; machinist, and handle farm implements; residence, Stephen, Minn.

Q. 2. How long have you been interested in the implement business in the Northwest?

A. About eighteen or twenty years, I think.

Q. 3. How long have you had experience with wheat grain drills?

A. Seventeen years.

Q. 4. What territory, or what extent of territory, as to number of miles in a general way have you covered at Stephen?

A. I have sold drills as far as 75 miles east of Stephen; that is,

at Hughes and Sievers, 18 or 20 miles north and east of Stephen, and about 10 or 12 miles southeast of Stephen, and covering the territory about 12 miles west of the Red River.

Q. 5. Please explain what is the fact as to the character of the soil requirements of seeding in the territory you are familiar with, whether there has been any material change in the last few years or not?

A. It has varied some years.

Q. 6. Please explain in a general way what years and what the variation is.

A. In wet years on what we call the gumbo lands it sometimes got baked and hard; the lighter soil or sandy coil east of town is more easily cultivated.

Q. 7. What years do you remember in which it got baked hard, just in a general way; is that a general condition?

A. Yes, sir, about the general condition when we have heavy rains after the snow goes off.

Q. 8. What drills or shoe drills have you known of being sold in that territory during the period of 1894 to 1902?

A. The Van Brunt & Wilkins and the Dowagiac and the Peoria and the Kentucky and the Monitor.

Q. 9. What is the fact as to the drill during that time that was the leading drill in that country?

A. The Van Brunt & Wilkins was the leading drill.

Q. 10. Was it a flat spring pressure device or a coil spring?

A. A coil spring.

MR. CHAPPELL: Objected to as being immaterial.

BY THE MASTER: Same ruling.

MR. CHAPPELL: Note an exception.

Q. 11. Will you please explain whether you yourself have had a Dowagiac rod pressure drill and offered it for sale, together with the Van Brun coil spring drill.

A. Yes, sir.

Q. 12. Please explain how many Van Brunts and how many Dowagiacs you sold that particular year.

A. I sold sixty-one Van Brunt & Wilkins drills and two Dowagiacs in 1892.

Q. 13. What is the fact as to your experience with Dowagiac pressure rod spring drills subsequent to that; do you remember of ever having handled them second or first hand?

A. Yes, sir.

Q. 14. Please explain.

A. I think it was in 1901 that I traded in two Dowagiacs for Van Brunt & Wilkins drills—two 22 shoe.

Q. 15. When did you sell these Dowagiacs?

A. Sold them the same year, 1901.

Q. 16. Please explain how you came to trade in those Dowagiac drills, and what the reason was?

MR. CHAPPELL: Objected to as calling for a conclusion of the witness.

BY THE MASTER: I can't see that it is at all material why he took in Dowagiac drills, but I will let it go in.

MR. CHAPPELL: Note an exception.

A. We traded them in because the party that we traded with couldn't get the shoes sufficiently in the ground to cover the seed, and he had a Van Brunt & Wilkinson drill before and wanted the same style of drill for that reason.

Q. 17. Do you remember as to the year 1897, how the Van Brunt and Dowagiac sold in that territory as to price?

A. Yes, sir, I think so.

Q. 18. Please explain.

A. The 22 shoe, I think, we sold for $120, of the Van Brunt & Wilkins.

Q. 19. Do you know what the Dowagiac was selling for?

A. Yes, sir, this would be on two fall payments; the Dowagiac was selling for $110.

Cross-Examination by Mr. Chappell.

X-Q. 20. What year did you handle the Dowagiac rod spring pressure shoe drills?

A. In 1892.

X-Q. 21. From whom did you purchase them?

A. We had a contract with the company indirectly in Russell Bros.' name.

X-Q. 22. Where are Russell Brothers located?

A. At Stephen, Minn.; they were at that time.

X-Q. 23. Why did you deal with them indirectly?

A. Because we had an exclusive contract with the Van Brunt.

X-Q. 24. How long did you continue to handle the Dowagiac?

A. Only that year.

X-Q. 25. Why did you discontinue?

A. Because we had better sales with the Van Brunt.

X-Q. 26. Made better profits on the Van Brunt, too, didn't you?

A. We made profits satisfactory to us.

X-Q. 27. Better profits on the Van Brunt than on the Dowagiac, wasn't there?

A. I don't think so; we had only two Dowagiacs and sold them the very last drills we had; couldn't get any more Van Brunts.

X-Q. 28. Which did you push, the Dowagiac or Van Brunt?

A. Towards the last we tried to push the Dowagiac, because we couldn't get enough Van Brunts.

X-Q. 29. How many Van Brunt drills have you sold in your territory?

A. About 220.

X-Q. 30. From what period?

A. Seventeen years.

X-Q. 31. Any of these disk drills?

A. Yes, sir.

X-Q. 32. How many of them disk drills?

A. Six of them.

X-Q. 33. Six Van Brunt disk drills, all the disk drills you have ever sold?

A. Yes, sir.

X-Q. 34. Who handled the Dowagiac shoe drills in competition with you during this period?

A. When Russell Bros. went into the machine business they had the Dowagiac in competition.

X-Q. 35. After the first year when you handled them?

A. Yes.

X-Q. 36. You stated what you paid for the Van Brunt 22 shoe drills from 1894 to 1902?

A. For the 22 shoe drills we paid $88, except for 1900 and 1901, I think it was, they raised us $5.

X-Q. 37. Any discounts from that or rebates of any kind?

A. There was a discount of 10 per cent. for cash June 1st.

X-Q. 38. And the figure you quoted was Nov. 1st?

A. Yes, sir.

X-Q. 39. Any further rebates of any kind?

A. No, sir.

X-Q. 40. Have you a Van Brunt contract here that you can produce?

A. No, sir, I have not.

X-Q. 41. How extensively was the Monitor sold at Stephen, or Monitor shoe drill?

A. It was not sold very extensively.

X-Q. 42. Very few of them, in fact; is that right?

A. Probably about 10 or 15 per cent. of the drills sold.

X-Q. 43. You never handled the Monitor, did you?

A. No, sir, never did.

X-Q. 44. Did you handle the Kentucky?

A. No, sir.

X-Q. 45. Who did?

A. T. B. McMann.

X-Q. 46. Kentucky have a very extensive sale?

A. No, not very extensive.

X-Q. 47. How did it compare with the sale of Dowagiacs?

A. They didn't sell as many as the Dowagiac.

X-Q. 48. Were as many Dowagiacs sold after the Kentucky was introduced as before?

A. I don't hardly think so; I don't really remember.

X-Q. 49. Who was the farmer that you traded the Van Brunt drill for the Dowagiac?

A. Albert Nutting and James Sinclair.

X-Q. 50. What was his address?

A. James Sinclair at Stephen, Minn.; Albert Nutting is up at Lucatchean, Minn.

X-Q. 51. What drill competed with you the strongest at Stephen?

A. From the first it was the Monitor, and towards the last it was the Dowagiac which was the strongest competitor for a few years.

X-Q. 52. Which competed the strongest towards the Red River with you?

A. The Monitor.

X-Q. 53. When were the last Monitors sold up there?

A. This last spring.

X-Q. 54. Those are disk drills, are they not?

A. Yes, sir.

X-Q. 55. When was the Monitor shoe drill sold the last you know of?

A. That I don't really know. Might have had some Monitor shoe drills there in 1901.

X-Q. 56. Been very few Monitor shoe drills sold up there?

A. No, quite a number.

X-Q. 57. Who handled them?

A. Hans Christopherson, C. W. Lyons and then Russell Bros.

X-Q. 58. Are Russell Bros. in business there now?

A. No, sir, not now.

X-Q. 59. When did they go out of business?

A. I think last January; that is, they made an assignment, I believe.

Re-Direct Examination by Mr. Bowman.

R-D. Q. 60. You have been cross-examined about prices; what are the facts as to the prices on grain drills in the early part of your experience with them, compared with later years?

A. When we made the contracts with the Dowagiac people the prices were the same, except our contracts called for delivery at Stephen, and the Dowagiac and Van Brunt were delivered at Minneapolis.

R-D. Q. 61. What is the fact as to the prices, generally speaking; were they higher or lower in the early part of your experience there?

A. The prices were generally higher all through.

R-D. Q. 62. You speak of prices being higher, please give an instance of how much higher.

A. If I remember right we paid $93, our contract price for 17 shoe drills, when we started in to sell drills.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 63. Who requested you to come here to testify?

A. Mr. Webber of Deere & Webber.

R-X. Q. 64. You handle Deere & Webber's line of goods?

A. I handle their plows and buggies.

R-X. Q. 65. Who handles the Kentucky drill up there?

A. It is not handled there this year.

R-X. Q. 66. Who handled it last year, or in 1902?

A. What drills there were left when R. J. McMann quit business was shipped to Grand Forks, shipped away from Stephen.

R-X. Q. 67. Van Brunt shoe drill is a patented drill, isn't it?

A. I suppose it is; I don't know.

MR. CHAPPELL: Signature of the witness to his deposition is waived in the presence of counsel.

THOMAS J. SMITH, being called in behalf of defendant and duly sworn, deposes as follows:

Direct Examination by Mr. Bozeman.

Q. 1. What is your name, age, occupation and residence?

A. Thomas J. Smith; 45; implement business and farming; Grand Forks at present, my family lives there.

Q. 2. Referring to your experience in the implement business, have you had special experience with shoe drills?

A. Yes, sir.

Q. 3. Have you handled them in your business?

A. Yes, sir.

Q. 4. Taking the period from 1894 to 1897, what territory did you have experience with?

A. I had Reynolds, Thompson and Buxton; those three towns I was in business.

Q. 5. About how many miles did your territory cover?

A. About 25 miles square.

Q. 6. What has been the character of the soil and condition of the land when seeding has been done in your territory?

A. Character of the soil, black loam; always plowed in the fall and thoroughly cultivated in the spring; crops there principally wheat and oats and barley.

Q. 7. How as to whether the ground is wet?

A. Always dry when seeded and worked up; have to work it up for seeding.

Q. 8. Seeding done there with frost in the ground?

A. When the frost is out sufficient to seed they go ahead and seed; when frost is out six inches they seed.

Q. 9. Have you had experience in that territory in selling a coil spring shoe drill?

A. Yes, sir.

Q. 10. During that time?

A. Yes, sir.

Q. 11. What drill did you sell of that character?

A. Van Brunt.

Q. 12. What is the fact as to what drill had the lead in that territory at that time?

A. Van Brunt had the lead there when I was in business.

Q. 13. What other drill was sold in competition?

A. I sold the Dowagiac and the Kentucky and the Havana press—four drills.

Q. 14. Was the Dowagiac sold at any time in that territory by other agents?

A. Yes, sir.

Q. 15. What about the Peoria drill, was that a flat spring drill, do you know?

A. I couldn't say what kind of a spring, that was sold at Buxton by another firm.

Q. 16. You don't know whether that was a coil spring?

A. I think it had a coil on it. I am not sure myself what it was.

Q. 17. You have, then, had experience in the handling of drills with flat spring pressure device and with rod device, and also with coil spring device?

A. Yes, sir.

Q. 18. From your experience what figure does the pressure device cut in the sale of a drill?

MR. CHAPPELL: Objected to as calling for the conclusion of the witness.

BY THE MASTER: That is an opinion based upon his experience as salesman. I think it is competent.

MR. CHAPPELL: Note an exception.

A. The spring cuts very little figure on the drill in my estimation.

Cross-Examination by Mr. Chappell.

X-Q. 19. What was the first shoe drill brought to your attention?

A. The first one I sold was the Van Brunt & Wilkins.

X-Q. 20. Know of any before that?

A. I never handled any before that, that was my first year in business.

X-Q. 21. When was that?

A. In 1892.

X-Q. 22. Didn't know of the Dowagiac before that?

A. Oh, yes.

X-Q. 23. Which did you learn of first, the Dowagiac or Van Brunt?

A. Hard to tell which one I learned of first.

X-Q. 24. When did you begin handling the Dowagiac?

A. I can't tell exactly when that was, three or four years after being in business at Reynolds.

X-Q. 25. About what time would that make it?

A. About 1896.

X-Q. 26. When did you begin handling the Kentucky?

A. First year it came out.

X-Q. 27. What year was that, if you remember?

A. I think that was in 1895 or 1896.

X-Q. 28. Isn't the ground quite wet when they begin seeding in the spring?

A. There are places that are wet; can't seed it very successfully when wet.

X-Q. 29. They begin as soon as possible after the snow goes off?

A. Yes, sir, as soon as the ground is in condition.

X-Q. 30. The ground at that time is usually quite damp?

A. Of course, damp sometimes; they put it in different ways; generally work the ground up before they seed it; dries out between the time of working up and seeding.

X-Q. 31. Please indicate the number of Van Brunts sold from year to year by you, or your firms that you have been connected with, from the year 1894 to 1902, inclusive.

A. I couldn't tell you how many; I bought a carload every year, and more of them, for the three places.

X-Q. 32. About how many in a carload?

A. Runs from twenty-five to thirty.

X-Q. 33. Bought a carload for each place?

A. No, sir; sometimes probably sold thirty or thirty-five in a year; other years would not sell so many of the Van Brunts.

X-Q. 34. How many of the Dowagiacs did you sell during the years you handled them?

A. I couldn't say.

X-Q. 35. Your contracts would show, wouldn't they, and the books?

A. Yes, sir, I had one carload of the Dowagiac, that is the only time I remember, in 1897.

X-Q. 36. Never bought more than a carload any season of those?

A. No, sir.

X-Q. 37. Did you dispose of them that season?

A. I don't remember whether I carried over any or not; what we didn't sell we carried over.

X-Q. 38. How many years did you handle the Dowagiacs?

A. I couldn't say exactly how many years. I would have it one year and then someone else would get it. I had it two or three years in succession, then Goodrich & Herring got it, and then the next year I got it again.

X-Q. 39. What year did you sell out?

A. 1902.

X-Q. 40. How long have you been out of the implement business?

A. At Buxton and Reynolds since 1902; I have a house I am interested in at Buxton at present.

X-Q. 41. The principal place of business is at Grand Forks?

A. I have no implement business at Grand Forks at all.

X-Q. 42. How many Kentuckys did you buy from year to year up to 1902?

A. I couln't tell you that, I never looked it up; I used to buy some every year.

X-Q. 43. Buy them in carload lots?

A. Yes, sir.

X-Q. 44. As much as a carload every year?

A. Not every year, didn't average that much.

X-Q. 45. Would you handle the other makes of drills while handling the Kentucky?

A. Yes, sir.

X-Q. 46. Did you handle the Dowagiac while you handled the Kentucky?

A. The years that I had it.

X-Q. 47. How long have you handled the Kentucky continuously, and in what places?

A. Handled it every year since it came out, 1895 or 1896, whatever year it came out; I have handled it every year.

X-Q. 48. At all the places you have been interested in?

A. Yes, sir.

X-Q. 49. Did you sell as many Dowagiac drills after you took up the Kentucky as you did before?

A. I had the Kentucky before I had the Dowagiac.

X-Q. 50. When did you begin handling the Dowagiac?

A. I think it was in 1897.

X-Q. 51. Who handled the Dowagiac at these different places before you took it up?

A. Stephen Collins at Grand Forks had the territory.

X-Q. 52. How did you come to take up the Kentucky when you had the Van Brunt for sale?

A. The Deere people were making this drill; they wanted me to take one in to show it up as a sample; from that it led on to the sale of them.

X-Q. 53. At the special request of Deere & Webber, then, that you took it up?

A. Yes, sir, they were selling these drills, and they wanted, of course, to sell the drills, and we bought them from them.

X-Q. 54. You handled the rest of Deere & Webber line?

A. Yes.

X-Q. 55. How long did you handle it?

A. Ever since I commenced business.

X-Q. 56. Did you handle the Superior coil spring pressure drill in the first place?

A. No, never sold the Superior.

X-Q. 57. What shoe drills were in competition at these different places you mentioned as having been engaged in business in?

A. I practically had no competition only the Dowagiac, when I didn't have it; then it was in competition against me.

X-Q. 58. Who were the agents that had it in competition against you?

A. Stephen Collins of Grand Forks had the territory, and also Elken Bros., at Mayville, and, I think, Paulson, at Hillsboro, had the territory, and they didn't like to give up the drills, because my canvassers would conflict with their canvassers; for that reason we had Dowagiac for one or two years.

X-Q. 59. Which drills did you pay the most money for?

A. All practically the same, I think; bought on the same basis.

X-Q. 60. Have you got contracts with you that show the exact figures?

A. No, sir.

X-Q. 61. You are obliged to speak from recollection?

A. Yes.

X-Q. 62. Who requested you to come here to give testimony?

A. Mr. Webber.

X-Q. 63. Did your Van Brunt sales decrease when you were selling the Kentucky or Dowagiac?

A. No, sir, sales kept up just the same, about.

X-Q. 64. What actual experience have you had in the field with the coil spring on shoe drills?

A. I have had actual experience of driving the drill and seeding with it.

X-Q. 65. To what extent?

A. Go out to the farm lots of times, drive a round or two; never worked day in and day out at it.

X-Q. 66. Which is the better drill in your judgment, the Kentucky flat spring or the Dowagiac round rod spring?

A. I couldn't say, I think the Dowagiac was a little the lightest draft machine; it had a wood frame and shoes were tilted so that the heel ran into the ground—made a lighter draft.

X-Q. 67. Ever have any trouble with the coil spring, any complaints about them used for shoe pressure?

A. No, sir.

X-Q. 68. What sizes of drills did you sell principally?

A. 22 shoe, principally.

X-Q. 69. Monitor coil spring shoe drill sold very much in your territory?

A. Only one drill that I know of, the double disk Monitor only was sold; that is all I ever knew of.

MR. CHAPPELL: Signature of the witness to his deposition is waived in the presence of counsel.

L. W. WIEMAN, being recalled by the defendants, deposes as follows:

Direct Examination by Mr. Boxeman.

Q. 1. You testified yesterday?

A. Yes, sir.

Q. 2. Did you wish to make any statement as to your testimony?

A. Yes, sir.

Q. 3. Please do so.

A. I made an error on the prices.

Q. 4. Explain what error you made.

A. The error I made, the prices I give was net instead of the $2 and 10 off June 1st.

Q. 5. Can you explain how the mistake arose, and how you can correct it?

A. I put it on my memorandum and made a mistake in getting the net prices down instead of the two fall payments terms.

Q. 6. Have you your contracts so they can be examined?

A. Yes, sir.

Q. 7. Will you produce them, the contracts for 1902, 1903 and 1904?

Witness produces them.

Cross-Examination by Mr. Chappell.

X-Q. 8. Referring to your 1902 contract with Deere & Webber, please explain the net prices that you actually paid on 22 shoe, six inch, with chain drill.

A. I am reading from column marked "Net Price," $98.56, and that is for farmers' notes for 22 shoe, and there is 9 1/11 per cent. off (shown at end of contract). Off of that one-half Nov. 1st, 1902, and half Nov. 1st, 1903, and the deduction is $2 paid all 1902, and of that for cash June 1st, 10 per cent.

X-Q. 9. Had you paid cash for the drills June 1st, what would have been the amount, as you figure it?

A. (Witness figures.) $78.84.

X-Q. 10. What would have been the figure Nov. 1st of the same year of the contract?

A. $87.60.

X-Q. 11. Who requested you to come here to testify?

A. Mr. Webber.

Re-Direct Examination by Mr. Bowman.

R-D. Q. 12. You were asked yesterday the price in 1903, as I remember, and for some reason counsel for complainant now asks you about 1902; will you please state what the net cash price was June 1st, 1903, as you figure it?

A. That is the price I had on my memorandum on the 22 shoe, $80.10.

R-D. Q. 13. That is the net cash price after all discounts June 1st?

A. Yes, sir.

R-D. Q. 14. Might explain as to 1904, relative to price, whether it is the same or not as 1903?

A. Same prices.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 15. Later years principally diskdrills, wasn't there?

A. No, sir.

MR. CHAPPELL: Signature of the witness to his deposition is waived in the presence of counsel.

WESTERN HOUGHTON, being called in behalf of defendants and duly sworn, deposes as follows:

Direct Examination by Mr. Bozeman.

Q. 1. What is your name, age, occupation and residence?

A. Western Houghton; 39; selling machinery for the firm of ———— Company, Cooperstown, N. D.

Q. 2. What territory do you operate in, or what part of the state?

A. Territory contributary to Cooperstown.

Q. 3. About how many miles does your territory cover?

A. About thirty miles; about fifteen to eighteen miles from Cooperstown each way.

Q. 4. What has been your experience in the sale of coil spring shoe drills, as to the time when you have sold them, if any?

A. In 1897 to date, selling Van Brunt.

Q. 5. What has been the character of the soil and the requirements of seeding during the period from 1897 to 1902 in your territory?

A. Varied a good deal different seasons; some wetter than others; always more or less wet places even in the dry seasons.

Q. 6. Please state how many coil spring Van Brunt shoe drills you sold in that territory, period of 1897 to 1902.

A. About 105.

Q. 7. Please state whether you had in that territory as competitor any drills employing a spring rod pressure device or similar device.

A. I had.

Q. 8. Please state whether you had any experience in the sale or use in that territory of shoe drills employing a flat spring pressure device.

A. We had.

Q. 9. Please state, from your experience, what figure the pressure device cuts in the saleability of the drill in that territory.

A. We figure the coil spring pressure as an advantage.

Q. 10. What shoe drills have you had experience with in that territory?

A. We sold the Kentucky, and the Dowagiac been sold there, and several others.

Q. 11. During the period of 1897 to 1902 what would you say was the leading drill in that territory?

A. The Van Brunt & Wilkins.

Cross-Examination by Mr. Chappell.

X-Q. 12. What years did your firm handle the Dowagiac?

A. Never handled the Dowagiac since I have been with the firm.

X-Q. 13. Didn't you say you sold some Dowagiac drills?

A. No.

X-Q. 14. When did you handle the Kentucky?

A. Handled the Kentucky in the year 1897 and 1898, and handled it since 1902.

X-Q. 15. Handle the Van Brunt same years?

A. Always handled the Van Brunt ever since I have been in business.

X-Q. 16. If the Van Brunt gave such satisfaction why did you take on the Kentucky?

A. Thought it was all right to carry two drills.

X-Q. 17. Kentucky wasn't near as good as the Van Brunt?

A. No, sir, didn't give as good satisfaction.

X-Q. 18. Who handled the Dowagiac at Cooperstown?

A. Mr. Erickson at the present time.

X-Q. 19. What years did he handle it?

A. Have handled it for the last six or seven years; used to be Burg Bros. & Company until a year ago last winter, and change was made and Erickson got it.

X-Q. 20. I suppose you determine which is the leading drill by the number that were sold?

A. Yes, sir.

X-Q. 21. Do you know how many Dowagiac drills were sold in that territory?

A. No, sir, couldn't state exactly.

X-Q. 22. Was it more or less than the Van Brunt?

A. Less, I should say.

X-Q. 23. Think there was twice as many Van Brunts sold as Dowagiacs?

A. No, sir, I wouldn't think twice as many.

X-Q. 24. Do you know what drills are used on the Cooper's farm?

A. Yes, sir.

X-Q. 25. What are they?

A. Dowagiac and Van Brunt and Superior and the Havana. The Havana is not used now. And Kings. Some of them have been discarded probably the last two years; he rents his land out.

X-Q. 26. How many of each were used?

A. I couldn't state that, used to run a good many more than they have of late years. The farm is cut up last few years. They used to run fifteen or sixteen drills there when he farmed all the land himself.

X-Q. 27. Which kind of drill is in the majority?

A. Dowagiac.

X-Q. 28. The section of country around Cooperstown is what is known as comparatively dry section?

A. You can call it that; for the last ten years they have had more moisture than they used to have; fairly wet the last ten years.

X-Q. 29. Who requested you to come here to testify?

A. Deere & Webber.

X-Q. 30. You are handling Deere & Webber's goods now?

A. Yes, sir, some of them.

X-Q. 31. Handling the Kentucky drills now?

A. Yes, sir.

X-Q. 32. And also the Van Brunt?

A. Yes, sir.

X-Q. 33. How did the prices you paid for the Van Brunt compare with the prices you paid for the Kentucky?

A. Practically the same.

X-Q. 34. Ever bought any Dowagiacs?

A. No, sir, I bought one for my own farm years ago, 1891, that is all the Dowagiacs.

X-Q. 35. Using that drill on your farm yet?

A. Used only one year.

X-Q. 36. How long did you continue to farm after that?

A. Up to 1900.

X-Q. 37. What drill did you use after you used the Dowagiac?

A. Used the Havana and Van Brunt.

X-Q. 38. What did you do with the Dowagiac drill?

A. Sold it.

X-Q. 39. Was that Dowagiac drill one with the rod springs?

A. Yes, sir.

X-Q. 40. Ever buy any Dowagiac drills in a wholesale way?

A. No, sir.

X-Q. 41. Which drill brought the best price at Cooperstown, the Dowagiac or the Van Brunt or the Kentucky, if you know; that is, prior to 1902?

A. The Van Brunt and Kentucky sold for about the same, I think; if anything they sold a little higher than the Dowagiac.

X-Q. 42. You don't know the prices of Dowagiac drills?

A. No, sir, no more than hearsay.

X-Q. 43. Did you do the buying for your firm and make settlements?

A. Sometimes; If there is no one of the firm there I do; sometimes I have it to do, and sometimes not.

X-Q. 44. Some member of the firm attends to that ordinarily?
A. Yes, sir.

MR. CHAPPELL: Signature of the witness to his deposition is waived in presence of counsel.

Taking of deposition adjourned at 2:30 P. M., July 14, 1905.

IN THE UNITED STATES CIRCUIT COURT, DISTRICT OF KENTUCKY.

Dowagiac Manufacturing Company, *Complainant,*
vs.
Brennan & Company, *Defendants.*
} In Equity No. 6820.

TESTIMONY FOR DEFENDANTS BEFORE THE MASTER ON ACCOUNTING.

SPRINGFIELD, O., August 5th, 1905.

Testimony on behalf of the defendants taken before A. G. Ronald, Esq., Master, at the offices of Staley & Bowman, 56 Gotwald Bldg., Springfield, Ohio, beginning at 9 A. M. of Saturday, the 5th day of August, 1905.

Present: Mr. Fred L. Chappell for complainant; Mr. Paul A. Staley for defendants.

And thereupon FRANK R. PACKHAM, a witness produced in behalf of defendant, being first duly sworn, testifies as follows, in answer to questions by Mr. Staley:

Q. 1. State your name, age, residence and occupation.

A. Frank R. Packham; age, 50; residence, Springfield, O.; occupation, manufacturer. At present I have charge of the department of the Improvements and Patents of the American Seeding Machine Company.

Q. 2. Does this company manufacture grain drills?

A. Yes, sir.

Q. 2a. Please state, Mr. Packham, what opportunities you have had for becoming acquainted with the construction and operation of grain drills, and particularly of what are called shoe grain drills.

A. For the past thirty years I have been engaged in the manufacture and designing of grain drills, conducting field trials and experiments, and all such work pertaining to the manufacture of grain drills.

I might add that my first experience dated back some thirty years ago and comprehended the manufacture of shoe drills, as well as the various other parts of the machines, and that during this time I have had occasion, and found it necessary, to visit practically all of the wheat growing sections of the United States, conducting field trials and exhibitions with our own machines in competition with others.

Q. 3. Has your experience been confined to the United States?

A. No. I have also experimented and conducted field trials in New Zealand and Australia, also in Continental Europe, in Great Britain, France, Germany, Russia, Finland, England and Ireland.

Q. 4. You may state whether or not it was common among manufacturers in 1894 to 1902 to use pressure devices on shoe drills involving coil springs.

A. Yes.

Q. 5. Will you please state what your knowledge is of the successful use of coil springs on furrow opening devices for grain drills, including shoe drills, prior to 1894?

The question objected to as immaterial.

MR. RONALD: I think he can answer that in view of the testimony that has been taken.

A. The Superior Drill Company were manufacturing shoe drills with coil springs prior to 1894; the Baker grain drill also successfully employed the use of coil spring pressure; Farmer's Friend Manufacturing Company, of Dayton, O.

Q. 6. How early do you know of these pressure devices of your own knowledge?

A. My first knowledge of the successful use of coil spring pres-

sure dates back to the time of my employment with the Baker Drill Company of Mechanicsburg, Ohio, at which time Mr. Baker made application for patent on a grain drill which comprehended the use of a spring pressure; in fact, I made the model for the Patent Office at the time. This was about 1878, as my recollection serves me. Probably two or three years later I also constructed models and assisted in the manufacturing of samples of machines for exhibiting at fairs of the Farmer's Friend drill, manufactured at Dayton, O., known as the Kuhn drill.

Q. 7. You say you assisted in making the model of a Baker drill. Were drills like this manufactured and put on the market, and if so, when?

A. About thirty years ago.

Q. 8. Are you familiar with what is known as the Van Brunt shoe drill with the coil spring pressure?

A. Yes.

Q. 9. How long have you known of the use of this device?

A. The first Van Brunt drill that I ever saw was equipped with coil spring pressure; I believe about 1888, when I made a trip to the Northwest.

Q. 10. I show you now a shoe section of a grain drill with a coil spring and a rod passing through it, and ask you if you can identify it; that is, if you are familiar with it?

A. I identify this as a Van Brunt construction of a shoe and pressure device, from the fact that it is identical with furrow openers and spring pressure on a machine which I have in my department, made by the Van Brunt Manufacturing Company.

Q. 11. How does this compare with the Van Brunt construction which you saw in use in 1888?

A. I believe it to be substantially the same in so far as the application of the coil spring is concerned.

Q. 12. Was the use of a coil spring pressure on shoe drills such as shown in the Van Brunt device you have identified open to the public in 1894?

A. I should say, by all means, yes.

Q. 13. Upon what do you base this answer?

A. My own previously referred to personal experiences with devices of this kind, and to prior publications.

Q. 14. I call your attention to the original record of this case for final hearing, containing a number of printed publications, in the nature of drawings and specifications, issued by the Patent Office, and ask you to look through it and point out any structures you can find there involving the use of a coil spring for applying, pressure to furrow opening devices, and the date of the publications.

A. I find here the Guyer patent No. 27,445, March 13, 1860. This device provides means for applying pressure to the hoe of this cultivator, each one being furnished with a separate spring, which in its operation acts independently of the other. This is supplied in substantially the same manner as it would be to the drag-bars of a drill. Also in the Franklin patent No. 92,951, July 27th, 1869, here I find springs, so arranged as to apply a yielding pressure to the heel of a furrow opening shoe. So, also in the Hayden patent No. 100,033, February 22nd, 1870; here I find spring pressure applied to the drag-bar of a furrow opening device, the object of the application of this pressure is to cause the shoe to penetrate the hard soil. This construction, like the ones previously mentioned, consists of a coil spring and means for retaining the same in connection with the drag-bar of the shoe or furrow opener. I also note the J. C. Baker patent No. 154,780, Sept. 8, 1874. This drawing shows the pressure independently applied to the several bars throughout the series; in fact, I recognize this drawing as one having been made from the model, Patent Office model, to which I previously alluded to as having assisted in making.

The Asher patent No. 231,749, Aug. 31, 1880. This drawing shows a coil spring attached to its shoe furrow opener. Also the Elam & Boggs patent No. 237,001, Jan. 25, 1881, the coil spring pressure is shown in these drawings as being applied to the furrow opener. So also, the Morris drill No. 251,724, Jan. 3, 1882, shows an application of the spring pressure to a furrow opening device;

the furrow opening device being of the shoe form or type. The Elam & Boggs patent No. 268,361, Nov. 28, 1882, is an exceedingly clear illustration of the use and application of the coil spring pressure to a grain drill shoe.

Q. 15. I notice that the Baker patent, which you say is the one you previously referred to as having assisted in making a model for, is dated in September, 1874; as I understood your former answer you thought you made this model about 1878. Will you please state, with reference to the date of this patent, when it was that you did the work on this Baker device, and also with reference to the Baker patent, when it was that these coil spring pressures were put in public use and on the market?

A. I have simply made a mistake in my statement, my calculations being based upon a knowledge of the fact that I have been in Springfield, since leaving Mechanicsburg, eighteen or nineteen years, having left the employ of the Baker Drill Company probably five years prior to coming to Springfield, which brought the date as I stated. However I note the application for the patent was filed July 13, 1874, and the model was made certainly prior to that time, which would correctly establish the date at which time I was employed in making the same. My recollection is that the machines were in operation and sold to farmers probably about the time this application was made. This I do remember, and very distinctly, that the Baker Drill Company made a great talking point and a feature of this particular construction, it having been, previous to the introduction of the Baker drill, customary, when adding pressure, to apply log chains and weights, at least that was the custom in that locality.

Q. 16. Will you please compare this Van Brunt device with the spring pressure with these printed prior publications that you have referred to, and point out briefly any corresponding parts that you find in construction or operation?

Objected to as incompetent, and also immaterial to any issues in this accounting. If the structures have been manufac-

tured in accordance with these various patents it would seem that this was not the way of proving it.

MR. RONALD: Objection overruled.

Exception noted.

A. In the Guyer patent, for instance, the drawing shows a rod at F K connected to a pressure arm, a rod attached to a pressure bar, retaining a coil spring, the compressing of which applies additional force to the furrow opener, same as the Van Brunt. In the Franklin patent the coil spring F B mounted upon a retaining rod, said rod being attached to a shoe furrow opener, permit the shoes to rise and fall, and further furnishes means of applying pressure, same as the Van Brunt construction; in fact, quite similar.

Again, the Hayden patent provides a coil spring 12, retained by a rod 11, as in the Van Brunt device; upon the application of pressure to the spring the rod extends through, the same as in the Van Brunt; the lower end of this rod is also attached to the drag-bar *c* supporting the shoe 20. In the Baker construction I find a spring *a*, as in the Van Brunt, retained by a rod or link *l*, in this instance, the rod passing between the drag bars I or an opening thereof. The movement of a lever as in the Van Brunt furnishing a means of applying the pressure. In the Elam & Boggs patent and the Morris patent, and especially the Elam & Boggs patent No. 268,361, Nov. 8, 1882, I find substantially, and in the latter case almost identically, the same construction that is shown in the Van Brunt device before me. The Elam & Boggs patent rod C and spring C^2.

The device identified by the witness as the Van Brunt is offered in evidence and marked "Defendant's Exhibit Van Brunt Shoe and Pressure."

Q. 17. Please explain how this exhibit "Van Brunt Shoe and Pressure" is connected up to the grain drill, and operated to apply pressure.

A. The drag bars to which the shoe is attached is pivotally connected at its forward ends to clips which are mounted upon the frame of the grain drill, a well known and ordinary construction.

A spring rod is attached to the lower part of the conduit. This is called a spring rod because of the fact that it retains the coil spring which encircles it. The upper part of this rod passes through an opening in a rocker arm, a well-known and familiar construction; as the rocker arm is moved forward it depresses the spring, as it moves backward it releases the pressure upon the spring, and consequently upon the shoe, the rod retaining the spring then serving as a means of lifting the shoe from the ground.

Q. 18. I call your attention to Defendant's Exhibit Kentucky Drill Catalogue, and especially the device illustrated on page 6 thereof, and ask you if you can identify this construction, and, if so, state what it is.

A. I do identify this as the present form of Kentucky shoe drill. In addition to illustrating the detail showing the detachable heel of the shoe it also shows the application of the coil spring pressure, which consists of a retaining rod, such as I have many times before described, this rod carrying a coil spring, a rocker arm, providing the means for depressing said spring; in this particular construction my department furnished the designs and was introduced in the spring of 1904.

Q. 19. Do you regard that there is any special novelty in this device?

Objected to as incompetent and immaterial.

MR. RONALD: Objection overruled and exception noted.

A. I do not. It is merely the application of old and well-known constructions.

Q. 20. There has been some testimony in this case about a device which was used on the Van Brunt drill for changing the angle of the shoes. Are you familiar with this construction?

A. Yes, I am, as applied to the Van Brunt machine.

Q. 21. Is there any special merit in a device of this character when used on shoe drills?

Objected to as indefinite. It does not appear what the device is, and the question is also objected to as calling for mere conclusion of the witness.

Q. 21*a*. In giving your answer, state briefly how the device works, and any reasons you may have for any opinions you may express.

Objection overruled: exception noted.

A. A part of my experience and experiments with shoe drills was early conducted in the Northwest. At that time shoe drills were first being introduced in any considerable numbers in that section. Consequently I found various opinions and ideas existing relative to the position the shoe should bear to the surface of the ground. Noting this difference of opinion at that time, we prepared and furnished means for adjusting the angle of the shoe relative to the surface of the ground. At first we accomplished this by providing a series of holes in the toe of the shoe, these holes providing different adjustments, as might be necessary to provide. This provision, however, affected only the individual furrow openers. I then provided a means whereby this adjustment could be made simultaneously throughout the whole series, the adjustment being made on the end of the tongue, the said end being permitted to move upward or downward, depressing or elevating the front of the frame to which the shoe drag-bars were attached. The construction referred to is shown in the drawings of a patent to C. E. Patric and F. R. Packham, No. 404,108, May 28, 1889, which I find in the record of this case. This construction we continued to use regularly for one season, but on account of its cost and the fact that we had learned where to properly attach our shoes and in a manner to be satisfactory as a general proposition, we abandoned the use of this device for a cheaper and what we believed to be a more substantial construction in making the attachment direct and non-adjustable. Since that time we have not resorted to the use of adjustable tongues for the purpose of changing the angle of the shoe or furrow-opening devices on any of our products. Those are my reasons. I do not believe the adjustment to be an essential requirement, provided the manufacturer is so versed in the art of drill making as to be able to provide a permanent attachment meeting generally all soil conditions.

Q. 22. Did the the adjustment you have referred to and shown in the patent referred to, as used by you, accomplish substantially the same result as in the Van Brunt device?

A. Precisely the same, I should say.

Q. 23. From your knowledge of the art of seeding machines and shoe drills, what would you say as to the principal features of shoe drills being open to the public; I mean as to the manufacture of shoe drills, whether or not a successful shoe drill could, during the period of 1894 to 1902, be manufactured as an unpatented device?

A. If I understand your question, the essential features of a good shoe drill would consist of shoes of satisfactory form, of feeding devices for sowing the grain, of frames, lifting devices, hitches, and pressure devices, all of which I believe were open to the public at the time to make and to sell.

The answer is objected to as stating a mere conclusion of the witness.

Cross-Examination by Mr. Chappell.

X-Q. 24. Was the Baker drill to which you referred early in your testimony a shoe grain drill?

A. The model to which I referred, Mr. Chappell, was a hoe drill, but the pressure was also applied to a shoe drill, the same being supplied regularly in the market, shortly after the application was made for the Baker patent.

X-Q. 25. Is the Baker Drill Company still in business?

A. No, the Baker Drill Company made an assignment and went out of business a number of years ago, but repairs for their machines, all of the parts, inclusive of the springs and hoes and shoes, are to-day furnished by W. C. Downey & Company, manufacturers of bale ties, located in Springfield, O. At least, they were furnishing these repairs as late as two seasons ago.

X-Q. 26. In what section of the country were the Baker shoe drills sold, and about how many were sold?

A. It would be impossible for me to state how many drills

were sold, or the sections of the country in which they were disposed of. My knowledge in this respect is confined pretty generally to localities where the factory was situated. However, I do know that a trade, which Mr. Baker at the time called "a good trade," was developing in Kentucky. As to the numbers sold, I really don't know anything about it. I had nothing whatever to do with the sales.

The answer, in so far as it states what Mr. Baker says, is objected to as hearsay.

Objection sustained.

X-Q. 28. Where did you see a shoe drill in operation?

A. In Champaign County, Ohio.

X-Q. 29. What was the condition of the soil there?

A. The condition of the soil was peculiar; the first time I saw this machine operated, some fifteen or twenty acres, probably twenty acres, of land located in a field near the fair grounds of the Central Ohio Fair Association, and adjacent to a small lake known as "Baker's Lake." This soil at one time was near the bottom of a portion of this lake, and partook of an alluvial nature; that is, a light black soil with little grit in it as I remember, very rich, part of the field being plowed, part of it being stubble, to my recollection. At another time I witnessed the working of a Baker shoe drill on the farm of Milton Cheney; the conditions of the soil on this farm were such as one would find ordinarily on any farm in this section of the country. I do not remember the year, but I remember the season and that the grain was being planted regularly and for the purpose of raising of crop.

X-Q. 30. What was the season, spring or fall?

A. Since we were sowing wheat, and the fact that I know of no wheat being sown in the spring of the year in that section, I should say that it was in the fall.

X-Q. 31. You state you have experimented with drills in different countries. What character of drills; were they shoe drills, or of other variety?

A. All kinds in some sections, special styles in other sections.

X-Q. 32. State at what places you made a special test of shoe drills, and here I refer particularly to your world-wide experience.

A. Mr. Chappell, I have made numerous tests in the Northwest, in the states of Minnesota, of North and South Dakota, and in the Northwest Territory, Manitoba, Kentucky, Ohio, Missouri, Texas, Michigan, at Schloss-Sagnitz, Riga, Russia; Odessa, Russia, and vicinity of Warsaw, Russia. I am speaking of shoe drills.

X-Q. 33. What make of drills of the shoe variety did you test on these different occasions? If you tested more than one make indicate all the makes that you tested.

A. In the foreign countries to which I have referred the tests were made with a Superior shoe drill. However, opportunity was provided on numerous occasions enabling me to witness the work and operation of other makes of drills. I have operated Hoosier drills in the United States; also Kentucky drills, Superior, Bickford & Huffman shoe drills, Van Brunt shoe drills, Empire shoe drills, all in the United States. In Germany I tested Superior shoe drills, shoe drills manufactured by Rudolph Sack of Liepsic, a shoe drill manufactured by Eldsworthy of Elizabethgrad, Russia; Havana shoe drills on the estate of Count Berg, Schloss-Sagnitz, and, as a matter of fact, there were other foreign makes of shoe drills which I handled, but cannot remember the names.

Adjourned until 1:30.

Met pursuant to adjournment.

X-Q. 34. When did you operate Bickford & Huffman shoe drills and at what place?

A. Springfield, Ohio, during 1904—samples.

X-Q. 35. Has that structure been put onto the market?

A. I do not know whether that particular construction has or not. I did not operate it to any great extent. It came under my observation, the device having been sent to our department.

X-Q. 36. Bickford & Huffman is a department of the American Seeding Machine Company, is it not?

A. Yes, sir.

X-Q. 37. On what occasions, give dates, and where did you operate Van Brunt shoe drills?

A. In Clark County, Ohio, in 1904.

X-Q. 38. Did you ever operate them before that?

A. No, sir; I did see them working, however, in Dakota territory.

X-Q. 39. Was the structure you operated like the exhibit here?

A. It was.

X-Q. 40. Were there means on the drills for adjusting the front end connection of the draw-bars?

A. Yes, sir, there were means for elevating and lowering.

X-Q. 41. Did you ever see a Van Brunt shoe drill which was not provided with such means for elevating and lowering the front end connections of the draw-bars for the shoes?

A. I do not know that I have.

X-Q. 42. When and where did you test the Empire shoe drills?

A. Such testing as I did with the Empire shoe drill was done in Springfield, Ohio, in 1903 and 1904.

X-Q. 43. Was the Empire structure a patented structure?

A. I believe the Empire shoe drill has some patented features. I am not familiar with them all.

X-Q. 44. The Empire Drill Company is also now a division of the American Seeding Machine Company, is it not?

A. It is.

X-Q. 45. Please explain briefly the structure of the Empire drill which you tested—shoe drills I refer to only.

A. The Empire shoe drill with which I conducted a test employed a shoe as a furrow-opening device, the said shoe being attached to draw-bars in the regular way, pivoted at their forward ends to the frame of the drill; a conduit attached to the shoe, much after the same manner that other shoes are constructed; and a coil spring and pressure rod for applying pressure to the shoes.

X-Q. 46. Has the Empire Drill Company, or the Empire Drill Company division of the American Seeding Machine Company, its successors, marketed a shoe drill in which there was a shoe with

draw-bars and boot of the ordinary construction, a flat blade spring and a pair of levers pivoted toward the forward ends of the draw-bars and extending to the rear of the boot and embracing each side of the boot, with a rock-shaft and connecting arm for applying pressure?

A. I could not, without referring to the device itself, specifically describe such a construction, but I am aware that the Empire division of the American Seeding Machine Company did make a shoe structure embodying in its make-up a flat spring.

X-Q. 47. State fully your experience with the Farmers' Friend shoe drill, if they made a shoe drill.

A. My experience with the Farmers' Friend Manufacturing Company dates back, as near as I can remember, some 25 or 26 years, at which time I temporarily left my work in Mechanicsburg, Ohio, for the purpose of traveling for the Farmers' Friend Manufacturing Company, and for the purpose of working in their experimental department when otherwise not occupied on the road. I believe I worked there for six months only, and at that time we were building drills having a coil spring pressure device. In fact, my principal object in going with the Farmers' Friend Manufacturing Company was to try and arrange for the disposition of an invention of my own, comprehending the use of a coil spring of specific form for the purpose of applying pressure to furrow-opening devices of all characters.

X-Q. 48. Is the Farmers' Friend Drill Company still in business?

A. It is not.

X-Q. 49. Was that company absorbed by the Stoddard Manufacturing Company of Dayton, O.?

A. I have been informed—I think I have—that it was. That is my understanding of it.

X-Q. 50. When were the last Farmers' Friend shoe drills with spring pressure device marketed that you know of?

A. I cannot say. I know of no time when it was marketed without coil spring pressure. It is a great many years ago since I was employed by that company, and while it was my business when on

the road to sell the product of that concern, and I did sell the product, I cannot at this time recall any particular style of machine that I contracted for with the agents.

X-Q. 51. Can you describe definitely the spring pressure shoe drill that was made and sold by you as traveler for the Farmers' Friend Drill Company?

A. I cannot. I can describe the spring pressure that was in use at that time, but I could not give a specific description of the shoe. Neither could I of the hoes. I know that pressure was applied to the drag-bars and actuated by a rock-arm.

X-Q. 52. To what extent were these drills marketed in the Northwest?

A. I did not travel there. I do not know.

X-Q. 53. Do you know of any persons now living who were connected with that company who would be likely to know; if so, give their names and addresses?

A. I do not know.

X-Q. 54. Do you know where one would be likely to find a catalogue illustrating this spring pressure shoe drill?

A. No. The patents, however, show publications—that is, the Patent Office records show the spring to which I refer.

X-Q. 55. Please indicate the patents, if you are able?

A. I cannot indicate the patent or the number, but I believe I can give the name of the inventor—Andrew Runstetler. I find the patent in the records of this case—No. 285,363, dated Sept. 18, 1883.

X-Q. 56. When was this device applied to shoe drills, if you know; it is only illustrated in the patent as applied to hoe drills?

A. I should judge that it was in the year 1883, or in 1884, that I was employed there. If I am correct in the date, that was the time at which this pressure was applied to the furrow opening constructions which we then had in the experimental department. I do not remember myself having applied this pressure at the time of my employment to a shoe furrow opener.

X-Q. 57. Was the Kuhn drill made by the Farmers' Friend Drill Company?

A. I presume that it was. Mr. Kuhn, I believe, was president of the company.

X-Q. 58. Will you please describe the Kuhn drill as well as you are able to?

A. I am under the impression that the Kuhn drill was the Runstetler drill, the one to which we have referred.

X-Q. 59. How do you fix the date as 1888 when you first saw the Van Brunt drill with the coil spring pressure device?

A. I fix that date, as near as I can, associating it with my visit to Minneapolis and the Northwest that year, at which time I made quite an extensive trip over the territory, driving from farm to farm for the purpose of witnessing the performance of the different drills then in that section of the country. It was in the spring.

X-Q. 60. Were not the first Van Brunt drills provided with weights for urging the shoes into the ground, and was not the coil spring pressure device adopted a little later on?

A. The only drill that I ever saw performing in the Northwest employing weights as a means for urging the shoes into the ground was a Dowagiac drill. I never saw a Van Brunt drill with weights that I remember of.

X-Q. 61. Was the Van Brunt drill which you saw at that time like the section of Van Brunt drill offered in evidence here, so far as the spring pressure devices are concerned?

A. I do not remember as to its specific construction.

X-Q. 62. In whose employ were you at that time?

A. The Superior Drill Company's.

X-Q. 63. How long have you been with the Superior Drill Company?

A. I think about eighteen years.

X-Q. 64. Is there a Superior Drill Company division of the American Seeding Machine Company?

A. Yes, sir.

X-Q. 65. Are you identified with that division still?

A. I am.

X-Q. 66. State who the officers of the Superior Drill Company were at the time of the formation of the American Seeding Machine Company, and whether the same officers are still holding positions with the Superior Drill Company division now.

A. The Superior Drill Company, I believe, is still a live corporation—E. L. Buchwalter, president; Richard Rodgers, secretary; Charles S. Kay, treasurer.

X-Q. 67. Do you hold any position with it?

A. A director is the only official position. Answering further your question, E. L. Bochwalter is president of the Ameican Seeding Machine Company. Mr. Carr is first vice-president, Mr. Rodgers is a director.

X-Q. 68. In your answer to Q. 14, you referred to several patents on furrow opener devices with spring pressure means. Will you indicate the extent that each of these various devices have been marketed, give the trade name of the drill, when marketed, and if any of them have been discontinued, indicate the date of the discontinuance?

MR. STALEY: Objected to as irrelevant and immaterial.

Objection overruled and exception noted.

A. It is impossible for me to do that unless it might be in the case of the Baker patent, for the reason that I do not know the names of the firms manufacturing under these patents. So far as the Baker device is concerned, I know of their successful sale and manufacture for five or six years during my employment with them, and I believe sometime after I left them.

X-Q. 69. What is your knowledge of the extent of the marketing of the Van Brunt drill?

A. I have no means of knowing the extent of the marketing of the Van Brunt drill. I only know that we have met it in competition ever since we have been marketing our goods in the Northwest, and only in that section of the country have I seen them in any considerable numbers.

X-Q. 70. What have been your duties since you have become connected with the Superior Drill Company, in connection with that company?

A. Experimental work—designing and constructing seeding machines of various kinds.

X-Q. 71. You alone, or associated with others, have designed shoe grain drills, have you not, since you have been connected with the company?

A. Yes, sir.

X-Q. 72. You took out a patent on Sept. 3, 1889, No. 410,436, on a grain drill which you assigned to the Superior Drill Company, did you not? And also a patent on June 3, 1890, F. R. Packham, No. 429,320, which you also assigned to the Superior Drill Company?

A. I did.

X-Q. 73. You also, as a joint inventor with C. E. Patric, took out U. S. letters patent No. 404,108, May 28, 1889, for a grain drill, and assigned the same to the Superior Drill Company?

A. Yes, sir.

X-Q 74. Did you, either as sole or joint inventor, take out any other patents on spring pressure devices for shoe drills, or on spring pressure devices, or on shoe drills, and assign the same to the Superior Drill Company?

A. That is a pretty difficult question for me to answer without referring to the records. There were patents being issued right along, all of which were assigned to the Superior Drill Company, and later to the American Seeding Machine Company. I find one patent, No. 490,360, Jan. 24, 1893, relating to shoe drills, method of attaching bars; No. 691,322, Jan. 14, 1902—this especially pertains to means for oscillating the frame. I do not recall others, nor do I find anything in the record.

X-Q. 75. Please state to what extent the Superior shoe grain drills have been marketed, so far as you know, and also specify the extent to which the Superior shoe grain drills have been marketed

in the Northwest, including Minnesota, North and South Dakota and parts of Wisconsin.

A. At one time the trade of the Superior shoe drills in the Northwest was very extensive. So also did our company enjoy a good trade in other sections—Tennessee, Kentucky and Texas, on shoe drills. Our company still manufactures in good numbers and supplies these sections shoe drills. But since the Superior Drill Company introduced their double disk drills into the Northwest territory and have been pushing that particular line, the output of shoe drills have been materially lessened. The double disk drill which we manufacture, and I believe first on the market with, took the place of our shoe drills, and, finding it more profitable to us to manufacture, or, I should say, the sales resulting more profitable to us, we made a specialty of the disk drill, and from the introduction of the disk devices our shoe drill trade gradually decreased. It will be impossible for me to state in numbers what the sales amount to, as I am not in touch with that or with the manufacturing end of it. I refer to the shop manufacture, or manufacturing department.

X-Q. 76. When was the disk or double disk introduced by your company, the Superior Drill Company?

A. I do not remember. Along about the time we were taking out patents on it. I should say along about 1894.

X-Q. 77. Who was your agent in the Northwest?

A. Dean & Co., Minneapolis.

X-Q. 78. I will ask you what territory has been covered by Dean & Co., and over what period, in the sale of shoe drills?

A. I believe that arrangements were made with Dean & Co. at or during the time of the Chicago World's Fair, 1893, and the territory that is allotted to their company comprehends North and South Dakota and Minnesota, I believe, and probably some of Wisconsin. That is a matter the sales department is more familiar with than I am. We generally speak of the Northwest territory as being Dean & Co.'s territory.

X-Q. 79. Who would be most familiar with this of your company?

A. The manager of the sales, Mr. Frank C. Johnson, Springfield, Ohio.

X-Q. 80. You do not know the extent of the marketing in that territory?

A. No, I do not.

X-Q. 81. Disk drills which you invented have been very successful, have they not?

A. I should say they have been.

X-Q. 82. Was there any inherent objection to shoe drills which led you to undertake the productions of the disk drills?

A. There were many objections to shoe drills in the Northwest during the spring season when the soil was frequently waxy and even at other times when the soil was dry and covered with standing stubble and loosely rooted, the Northwest machines being of narrow width between the rows, and it being required, especially in dry sections, that the shoe penetrate to a depth of several inches. This fact, together with the narrow width of the rows, caused in operation what I believe was termed by the farmers of the Northwest a "pillowing" result; that is, the shoes impacted the soil so tightly between their vertical walls as to cause the soil and stubble to push ahead of and bank up or "pillow" against the breast of the whole series. It was thought that if a satisfactory arrangement of disks could be made, it would reduce this tendency to pillow up and push the soil ahead, as was frequently the case with the shoes, and that, instead they would roll over the back. This was probably the incentive that caused me to experiment and produce the disk drill.

X-Q. 83. What has been your familiarity with the Dowagiac shoe drills?

A. I have seen the Dowagiac shoe drill at probably all the prominent state fairs. I have seen them in transit upon the platforms of the railway stations, and otherwise become familiar with their make-up through their publication and advertisement.

X-Q. 84. Did you ever test them in the field?

A. I never did.

FRANK R. PACKHAM.

And thereupon A. W. WILCOX, a witness produced for defendant, being first duly sworn, testifies as follows, in answer to questions propounded by Mr. Bowman:

Q. 1. State your name, age, residence and occupation.

A. A. W. Wilcox; 46; Horicon, Wis.; secretary of the Van Brunt Manuacturing Company, manufacturers of seeding machines.

Q. 2. Where is the Van Brunt Manufacturing Company located, and how long have they or their predecessors been located there to your knowledge?

A. They are located at Horicon, Wis., and their predecessors began making seeding machines in 1860, I believe.

Q. 3. How long have you been connected with them?

A. Since November, 1884.

Q. 4. I show you a device which purports to be a shoe furrow opener with a coil spring and rod attached thereto, and ask you if you can identify it, and if so, please state what it is?

A. I can. (Witness refers to the device heretofore offered in evidence and marked "Defendant's Exhibit Van Brunt Shoe and Pressure.)

Q. 5. How long to your knowledge has the Van Brunt Manufacturing Company, or Van Brunt, manufactured and sold this device which you have just identified?

A. I think since 1887. I think I am wrong. I think it was in 1889 or 1890 that we made the spring pressure.

Q. 6. Please state whether or not your company has sold continuously grain drills with shoe furrow openers having these spring pressure devices, as shown in this exhibit, without let or hindrance.

A. It has.

Q. 7. Please state whether they are still manufacturing such a device.

A. They are.

Q. 8. Please state whether at any time any claim has been made of infringement of any patent by the manufacturer and sale of this device.

A. Not to my knowledge.

Q. 9. Please state whether you have ever heard of the Dowagiac Manufacturing Company ever questioning your right to make this?

A. I have not.

Q. 10. Will you indicate in a general way, from your knowledge of the business, the output or numbers of the drills employing shoe furrow openers of this construction that were made and sold during the period from 1889 to 1903?

MR. CHAPPELL: Objected to, as the witness has not been shown to be competent to answer, no foundation having been laid.

Question withdrawn.

Q. 11. What have been your duties with the Van Brunt Company, and what knowledge have you had of their business?

A. I have been connected with the office, being its secretary since 1887; that is, being secretary of the Van Brunt & Wilkins Manufacturing Company, predecessors of the Van Brunt Manufacturing Company.

Q. 12. Have you had access to their books and records and been in position to know as to the business they have been doing?

A. Yes, sir.

Q. 13. Will you indicate in a general way, from your knowledge of the business, the output or numbers of the drills employing shoe furrow openers of this construction that were made and sold during the period from 1889 to 1903?

MR. CHAPPELL: The question is objected to as calling for secondary evidence, namely, the contents of certain books. The books themselves are the best evidence.

Objection overruled, and exception noted.

A. I should say about 25,000.

Q. 14. From your general knowledge of the business, where have these shoe drills that have been manufactured and sold by the Van Brunt Company been marketed?

MR. CHAPPELL: Objected to as calling for secondary evidence.

Overruled, and exception noted.

A. Largely in the Northwest.

Q. 15. Please state, from your knowledge of the business, whether your company has done any business in the states of Iowa, Wisconsin and Illinois?

A. Yes, sir, they have.

Q. 16. Please state, in a general way, where the largest portion of the shoe drill trade of the Van Brunt Manufacturing Company has been done.

A. North and South Dakota and Minnesota.

Q. 17. What would you say as to about the average number of machines that have been sold by your company during the period from 1889 to 1903, or the period from 1894 to 1903—whether the average number would be about the same or not?

A. I should judge it would.

Q. 18. What would you say as an estimate in your business, in rough figures, were the number of drills of the shoe furrow opener type like the exhibit, which were sold during the period from 1894 to 1903, not including 1903?

A. In the neighborhood of 16,000 or 17,000.

Q. 19. When did the Van Brunt Company first begin to manufacture disk drills?

A. In 1899-1900. Undesrtand me that our business year begins in August.

Cross-Examination by Mr. Chappell.

X-Q. 20. What are the sources of your information about the marketing of the Van Brunt drills?

A. I am connected with the office. I have charge of the correspondence, and have charge of the books.

X-Q. 21. Do you speak from memory on these different items that you have referred to?

A. Partially, yes, sir.

X-Q. 22. You have not recently reviewed the books to refresh your recollection about it?

A. In a general way I did, yes, sir.

X-Q. 23. When did you make that review?

A. Since I have been requested to come here.

X-Q. 24. Within the last few days?

A. Yes, sir.

X-Q. 25. What is the connection of your company with the American Seeding Machine Company?

A. It has no connection.

X-Q. 26. Are you not associated with them in certain litigations?

A. I could not say as to that.

X-Q. 27. You are not informed?

A. I am not informed on that subject.

X-Q. 28. You do not know whether the two concerns are connected or not in any litigation?

A. No, sir. I think they are not.

X-Q. 29. The 25,000 drills which you refer to, is it to shoe drills or to shoe drills and disk drills, both?

A. It referred to the shoe drill only.

X-Q. 30. In what year was the most of the Van Brunt shoe drills sold; that is, the largest number?

A. In 1899 and 1900, I believe.

X-Q. 31. When was the smallest number of shoe drills sold?

A. I think in 1889-1890.

X-Q. 32. What construction was made use of prior to 1889-90 by the Van Brunt Manufacturing Company or its predecessors?

A. They manufacture a broad-cast seeder and a shoe drill with weight pressure.

X-Q. 33. Who was the first to introduce the shoe drill with spring pressure in the Northwest?

A. I do not know.

X-Q. 34. In what part of Minnesota have your sales been most extensive for the Minnesota trade?

A. Why, I think it has been pretty evenly distributed through Minnesota.

X-Q. 35. You made no particular investigation as to that?

A. No, sir.

X-Q. 36. How about the distribution of the trade in North and South Dakota?

A. Why in South Dakota—I think it has been in East South Dakota—and the same would apply to North Dakota. It would extend over the entire state and not in the extreme west.

X-Q. 37. Any of this 25,000 sold in Manitoba?

A. Yes sir, there were a few.

X-Q. 38. Do you have any Kansas City trade on shoe drills?

A. Very little.

X-Q. 39. Have any trade in Texas?

A. No, sir.

X-Q. 40. Any trade in Oklahoma?

A. We do, yes, sir.

X-Q. 41. Any shoe drills?

A. I would not speak of any trade. We have very little trade in Oklahoma.

X-Q. 42. Have you marketed your shoe drills to any extent in Kentucky?

A. No, sir.

X-Q. 43. Or in Ohio?

A. No, sir.

X-Q. 44. Or in Indiana?

A. No, sir.

X-Q. 45. Have you marketed your shoe drills to any extent on the Pacific slope?

A. Not to any great extent, no, sir.

X-Q. 46. Can you indicate the towns and agents that have handled the Van Brunt shoe drills for the states of Minnesota and North and South Dakota?

A. I possibly could a very few of them. I am not familiar with that trade. I do not handle it; that is, I do not have the handling of the trade.

X-Q. 47. You could not speak from memory and give me the names of agents over that territory?

A. W. B. Brown, Pipestone, Minn.; Howard Howers, Cleveland, Minn.; and others.

X-Q. 48. Will you prepare a list of the agents and others who handle the Van Brunt shoe drills in the Northwest territory in Wisconsin, Minnesota, North and South Dakota and Manitoba, indicating the quantities from year to year?

A. I can do so if I am required to do it. I am willing to consult with my associates and can let you know at a later date.

X-Q. 49. Would you be willing to produce the books of the company for the inspection of a competent expert so that he might do that?

A. No, sir.

X-Q. 50. You would require an order of court against you, I suppose, before you would do that?

A. Yes, sir.

MR. CHAPPELL: The entire testimony of the witness objected to as not the best evidence on the subject.

X-Q. 51. The Van Brunt shoe drill is a patented construction, is it not?

A. I am not familiar with the patents.

X-Q. 52. Has it not always been marked patented?

A. I believe it has.

X-Q. 53. Would you recognize the patents on it if they were exhibited to you?

A. I am not a patent expert.

X-Q. 54. All of the Van Brunt Drills that have ever been sold have had an adjusctable connection at the front end of the shoe

draw-bars, have they not, so that they can be raised and lowered?

A. They have a tilting lever.

X-Q. 55. Is not that tilting lever made the subject of a patent?

A. I could not say.

X-Q. 56. You are not familiar with the patents of the Van Brunt & Wilkins Company?

A. No.

X-Q. 57. Will you ascertain and report what patents have been made use of on the Van Brunt & Wilkins construction?

A. I think I can do so.

MR. BOWMAN: That form of getting in evidence is objected to.

Question withdrawn.

MR. CHAPPELL: All evidence about the numbers of the drills is objected to as secondary, and not the best evidence.

Re-Direct Examination by Mr. Bowman.

R-D. Q. 58. Please explain as to the company you are associated with—whether it is a close corporation or what might be called a family corporation.

A. It is. The stock is all owned by our family.

R-D. Q. 59. Do you remember whether you have ever had occasion to investigate for Mr. Chappell the number of men that were employed in your factory for making these shoe drills and running your factory?

MR. CHAPPELL: Objected to as not competent.

Question withdrawn.

R-D. Q. 60. Will you please state in a general way about the number of men that have been employed by your factory in the manufacture of shoe drills during the period from 1894 to 1902?

A. We employed from 100 to 300 men—employed them for the seasons of the year.

R-D. Q. 61. Do you remember whether these men were employed in making shoe drills alone, or other drills, up to the time

you began to make the disk drill in 1899, and beginning with the year 1894?

A. We manufactured but very few hoe drills and also broadcast seeders.

R-D. Q. 62. About what proportion, as compared with the shoe drills, would you say was the per centage—the seeders and hoes?

A. I should say the seeders were about one-half the number of shoe drills.

R-D. Q. 63. What were the facts as to the number of single disk drills or disk drills that were manufactured during 1899 and 1900, as to whether they constituted a large percentage of your output or not of those first years?

MR. CHAPPELL: Objected to as incompetent and immaterial.

Objection overruled, and exception noted.

A. In 1899 and 1900 we made a very small quantity of disk drills.

R-D. Q. 64. How, as to the number of men employed by your factory in 1899 and 1900; please state whether either of those years was a large year for business or not?

A. Fair years, yes ,sir.

R-D. Q. 65. Do you know as to 1899, whether it was a particularly large year or not?

A. My recollection is that it was a very good year.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 66. What is your strongest competitor in the Northwest territory in shoe drills?

A. The Monitor, the Tiger, the Dowagiac.

R-X. Q. 67. Was not the Dowagiac the strongest of all of them?

A. I could not state that positively. I do not know.

R-X. Q. 68. When was the last Monitor shoe drill marketed that you know of?

A. I have no positive knowledge of it.

R-X. Q. 69. It has been out of the market for some time, has it not?

A. I believe not. I think it is being manufactured now.

R-X. Q. 70. Not positive about that, are you?

A. I am not positive, but I believe it is.

A. W. WILCOX.

Defendant's counsel offers in evidence the Dowagiac catalogues that have heretofore been produced, and same are marked "Defendant's Exhibit Dowagiac Catalogue."

Defendant's counsel also offers in evidence the Kentucky Drill Company catalogue heretofore identified and marked for identification, and same is marked "Defendant's Exhibit Kentucky Drill Company Catalogue."

Defendant's counsel produces a stipulation signed by counsel, relating to the testimony of Charles L. Fowle.

It is further agreed between counsel that the additional matter furnished by Mr. Schmalzreid and Mr. Hoyt shall be stipulated in, as follows:

The books of the Dowagiac Manufacturing Company for the year ending June 1st, 1901, show that the gross sales for that year, without allowances or discounts of any kinds, was $385,379.44. That the total trade discounts for that year, not including cash discounts, freight allowances, were $116,846.93.

Defendant's counsel rest.

CIRCUIT COURT OF THE UNITED STATES, DISTRICT OF MINNESOTA, FOURTH DIVISION.

Dowagiac Manufacturing Company, *Complainant,*
vs.
Minnesota Moline Plow Company *et al.*, *Defendants.*
} In Equity.

Testimony on the part of the defendants taken before George F. Hitchcock, Jr., Special Master in Chancery, at his offices in Minneapolis, Minnesota, beginning the 28th day of August, 1905, by agreement of parties.

Present, on behalf of the defendants, Thomas A. Banning, Esq.; and on behalf of the complainant, Fred L. Chappell, Esq.

MR. BANNING: Defendants' counsel states that at the end of the deposition of Mr. Charles L. Fowle he had a motion entered asking the Master to report in favor of the complainant for nominal damages only, on the complainant's *prima facie* testimony, but, inasmuch as the Master was not present, no ruling was asked on the motion.

Mr. Banning now states for the information of complainant's counsel that upon the hearing of this cause before the Master he will insist that the complainant is entitled to nominal damages only on his *prima facie* testimony, and he makes this notice on the record so that complainant's counsel will be aware of his position.

Mr. Banning also states for the information of complainant's counsel that in accordance with the stipulation entered into between the respective parties hereto on the 27th day of June, 1905, he has concluded, without waiving his right to insist as above stated, to begin his testimony on behalf of the defendants by adopting from the Brennan case the depositions of William J. Westergaard, Leslie Stinson, John H. Roberts, Lewis W. Wieman, James S. Brosnahan, Albert F. Snell, Ellef Ellis, Lee B. Hibbard, Gudebrand L. Elken, Charles K. Stocklund, Thomas J. Smith, Western Houghton, Frank R. Packham and A. W. Wilcox.

THOMAS H. MARTIN, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is T. H. Martin; age, 64; residence, 915 3rd Avenue South, Minneapolis, Minnesota; for the time being I am not in business.

Q. 2. Were you ever connected with the Minnesota Moline Plow Company in any way?

A. Yes, sir.

Q. 3. Kindly state in what capacity.

A. I was manager of the business here at Minneapolis, also at Winnipeg, from the 1st of October, 1895, to the first of November, 1902.

Q. 4. Do you remember the making of a contract or arrangement with the McSherry Manufacturing Company, of Middleton, Ohio, for shoe drills?

A. Yes.

Q. 5. If you remember, please state the name of the party with whom you had the negotiations leading up to that contract, if you did have negotiations with any one?

A. I had. I negotiated a trade with the manager of the McSherry Manufacturing Company. At that time his name was Eichelberger.

Q. 6. Do you know his first name?

A. No, I do not.

Q. 7. Did you have personal conversation with him about the matter?

A. Yes, sir.

Q. 8. Where was that?

A. At the office of the Minnesota Moline Plow Company.

Q. 9. On more than one occasion?

A. Well, not pertaining to that first order—the first contract. I had subsequent conversations with him.

Q. 10. Do you remember the date of the contract?

A. I think it was some time in December, 1895.

Q. 11. (Showing witness paper.) Please look at this paper which I show you and state what it is, if you know.

A. That is the contract as blocked out here and finally finished at Moline. The terms and prices were agreed to here.

Q. 12. This contract appears to be dated the 2nd day of December, 1895; is that correct?

A. That is correct, as near as I con recollect. I think that is about the time.

Q. 13. This contract appears to be signed by the McSherry Mfg. Co. by T. O. Eichelberger, Secy., and the Minnesota Moline Plow Company by F. G. Allen, Secy.; is that the Mr. Eichelberger that you mentioned a while ago?

A. Yes, sir.

Q. 14. Please tell us whether or not this is the contract under which the Minnesota Moline Plow Company got its drills during the first year?

A. It is.

Q. 15. You may also state whether there were other contracts made from year to year, and I hand you a number of instruments for your inspection before answering (showing witness papers).

A. There were other contracts.

Q. 16. What are these papers that I showed you in my last question?

A. Those are contracts for the succeeding years.

Q. 17. You may state whether or not these papers represent all of the contracts under which the Minnesota Moline Plow Company procured its shoe drills from the McSherry Company.

A. They do.

Q. 18. Please look at these contracts and state whether or not you find in them any description of the detailed construction of the drills that were to be furnished and which were furnished under them.

A. Nothing further than grades and delivery, under the head of grades and delivery.

Q. 19. In this contract of December 2, 1895, under the head of "Grades and Delivery," I find the following:

> "The goods are to be strictly up to grade as to quality, workmanship, style and finish as represented in catalogues and descriptive printing of the first party, and are fully guaranteed as per printed warranty of the first party."

Is that one of the clauses you had reference to in your last answer?

A. Yes, sir.

Q. 20. In the next contract, dated June 2, 1896, under the head of "Grades and Construction," I find the following:

> "The first party agrees to make any minor changes in the construction of implements purchased under this contract, that may be necessary to their successful operation and sale, and keep said implements strictly up to date as to construction and finish. All goods are to be made and sold under the name, brand and trademark of the first party, but to be stenciled 'Manufactured for the Minnesota Moline Plow Company."

Is that clause that I have quoted the one in the second contract that you referred to?

A. Yes, sir.

Q. 21. The next contract, dated September 4, 1897, and the next contract, dated September 21, 1898, and the next contract, dated August 23, 1899, and the next contract, dated June 29, 1900, appear to have the same clause that I have quoted last; please look at the contracts and see if that is not the case (showing witness papers).

A. Those are the same.

MR. BANNING: Defendants' counsel offers in evidence the six contracts above referred to and identified by the witness, and asks that the same be marked "Contracts Between the McSherry Company and the Minnesota Moline Plow Company."

MR. CHAPPELL: The contracts are objected to as being insufficiently proven by the witness, and as not being sufficiently proven in the case. The point I make is that these contracts

are not signed by Mr. Martin, and he does not identify the signatures positively, and for that reason the contracts are insufficiently proven.

MR. BANNING: Counsel for defendants states that he expects to further identify the contracts with this witness and probably others.

Q. 22. Did you ever see Mr. Eichelberger or Mr. Allen write?

A. Yes, sir.

Q. 23. Both of them?

A. Yes, sir.

Q. 24. Please look at these written signatures of Mr. Eichelberger and Mr. Allen, which appear on these contracts, and, if you know, state whose writing they are?

A. They are the writing of Mr. Eichelberger on the part of the McSherry Company, and of Mr. F. G. Allen, secretary of the Moline Plow Company.

Q. 25. I will ask you to state, Mr. Martin, if you can, what caused you to recommend, if you did recommend, the McSherry shoe drills as good ones for the Minnesota Moline Plow Company to handle under these contracts.

A. I had known of the drills for twenty years, more or less. It was for their general good qualities that I preferred them. No one particular part especially over the other, only the general satisfaction they gave to the farmers, as far as I knew, and the dealers.

Q. 26. You may tell us whether or not the Minnesota Moline Plow Company bought the drills outright from the McSherry Company, or simply sold them on commission; what the fact may be.

A. They bought the drills outright.

Q. 27. Do you remember the kind of spring pressure device that was used to press the shoes to the ground on the McSherry drills?

A. Yes, sir.

Q. 28. Please tell us whether you recommended the drills on account of their having the particular spring pressure device that they had, or what the fact may be.

A. It was not on account of the spring alone that I recommended the drill; more on account of its excellent seeding qualities.

Q. 29. In your conversation with Mr. Eichelberger was any special emphasis or importance attached to the kind of spring pressure device that the McSherry shoe drills had?

A. Why, nothing particular that I recollect of. The spring that was being used was satisfactory.

Q. 30. You may tell us also whether at the time you were negotiating with the McSherry Manufacturing Company you were also negotiating with other parties with reference to handling their drills.

A. Yes, sir.

Q. 31. If you remember, please give us the names of such other parties, or some of them.

A. One was the National Drill Company, at Dublin, Indiana. We had had the drill manufactured by the National Drill Company the year or two previous to that. It had the same shoe and same pressure, spring pressure, but I didn't like it for some other reasons, and we were also negotiating with the Sucker State Drill Company of Belleville, Illinois.

Q. 32. Do you remember also whether you were considering the Peoria drill, manufactured by the Selby-Starr Company of Peoria, Illinois?

A. Not the first year.

Q. 33. I believe you just said that the National drill had a spring pressure device similar, or somewhat similar, to that on the McSherry drill?

A. Yes, sir.

Q. 34. Did I correctly understand you?

A. Yes, sir.

Q. 35. What was the objection to the National Drill Company's shoe drill?

A. It was not fairly balanced on the frame, and was rather heavy, and the shoes were a little too long. It caused trouble in clogging and catching dirt in the field.

Q. 36. I will ask you to state whether there were any correspondence between the Minnesota Moline Plow Company and the McSherry Manufacturing Company, and also with the Moline Plow Company of Moline, Illinois, leading up to the making of the contracts that have been offered in evidence?

A. There was.

Q. 37. I have here some letters that I would like for you to examine and state what they are, if you know (showing witness papers).

A. That is the correspondence leading up to the contract.

Q. 38. I find here a letter from the McSherry Company to the Minnesota Moline Plow Company, dated October 19th, 1895, reading as follows:

"MINN. MOLINE PLOW CO.,
"Minneapolis, Minn.

"*Gentlemen*: Your favor of the 17th received and in reply to same will say that the writer has been looking up the matter this A. M., and finds that we can get a drill out in a very few days to send to you. Of course this would be a small drill, but it would show what the pressure, hoe, feed, etc. are. We use pressure similar to that of the Dowagiac, and have used this pressure on our shoe drills for three or four years very successfully.

"The writer in addressing you a few days since mentioned the 1st of Dec. as time which we could ship you the sample drill, but we feel that the work of making a satisfactory drill for your territory will be much less than the writer anticipated.

"When at Minneapolis recently we learned that flax was extensively sown with drills, and as you are aware that requires feed cups specially constructed for sowing it, as flax seed will leak out through a very small space, but we have feed cups specially fitted up for that.

"Now, from the single drill that we send, you can determine exactly what our double or large drill would be. Of course with the large drills a truss rod would be used to support the frame in the center, which is not necessary on the smaller drill. We will be prepared to ship you a sample of our shoe drill by the first of Nov. and could get out the printed matter promptly for you.

"We shall be pleased to hear from you by return mail, and also to send you sample of our drill, and we feel sure that you will be very much pleased with it. The writer realizes the fact that it is important that arrangement should be made early enough for your traveling men to be in position to talk the goods as they are going over the territory, and as stated above, we will be prepared to send the drill promptly and quote you terms and prices, so that within the next week or two you may be in shape to know just exactly what we can do for you.

"Thanking you for your favor, we remain,

"Yours truly,

"THE MCSHERRY MFG. CO.

"Dictated by E. M. D."

You remember of receiving that letter, do you?

A. Yes, sir.

Q. 39. I find here another letter from the Minnesota Moline Plow Company to the Moline Plow Company, under date of October 24, 1895, reading as follows:

"MOLINE PLOW CO.,

"Moline, Ill.

"*Gentlemen*: We this morning received a communication from the Sucker State Drill Co., Belleville, Ill., which we quote herewith: 'Kindly advise us whether Mr. G. A. Stephens has returned yet from his trip; if so, whether he has made a report of his interview with the Sucker State Drill Co., and also as to what he thinks of this drill, prices, etc. If favorable, please have him confirm the order for a sample of this drill, that we sent several days ago.'

"Our northern travelers are becoming very anxious to know what we are going to have for a drill for that trade, as it seems that the drill will be quite a factor in that trade for the coming year.

"We have a letter from the McSherry Drill Co., Middletown, Ohio; they state that they can get us a sample drill much sooner than they at first thought they could. We of course do not want to have samples to accumulate here, and we shall take the proper steps to get out any samples that have been sent us, though we may not have adopted them to our use.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Mgr."

Please state whether you remember or recognize that as a letter you wrote to the Moline Plow Company at Moline, Illinois.

A. Yes, sir.

Q. 40. I find here a letter from the Minnesota Moline Plow Company to the Moline Plow Company of Moline, Ill., dated October 28th, 1895, which reads as follows:

"MOLINE PLOW CO.,
"Moline, Ill.

"*Gentlemen*: We are in receipt of a letter to-day from the McSherry Mfg. Co., Middletown, Ohio. They do not seem to be as tardy or backward in shipping samples as the Sucker State Drill Co. You will note also that they promise to make us low prices. We have written them that prices would figure largely, in the prospect of any trade we may have in view with them on this implement. After we have examined it carefully, and think it is what we need, we will advise you fully.

"Yours truly,
"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Mgr."

Please look at that letter and state whether you recognize it as one that you wrote to the Moline Plow Company?

A. Yes, sir.

Q. 41. I find here a letter from the McSherry Manufacturing Company to the Minnesota Moline Plow Company, dated October 26th, 1895, reading as follows:

"MINN. MOLINE PLOW CO.,
"Minneapolis, Minn.

"*Gentlemen*: Replying to yours of the 21st would say that we will ship you the sample drill, about which we have written you, next week, and we feel sure that you will be very greatly pleased with it, as we consider it one of the nicest drills that we have ever gotten up, and a drill that will prove satisfactory in the field.

"We shall certainly be very much pleased to have your opinion of it when you see it. We shall follow this drill with tracer, so as to rush it through promptly, and in the meantime we will consider the matter of price and contract very fully, as we shall figure on the actual cost of the drill, so we will

know just exactly what that will be, but we can assure you that we will be prepared to quote you, within a few days, as low a price, quality of goods considered, as any manufacturer can make you.

"Yours truly,
"THE MCSHERRY MFG. CO."

Please look at that letter and state whether or not you recognize it as a letter that you received from the McSherry Manufacturing Company.

A. Yes, sir.

Q. 42. I find here a letter from the McSherry Manufacturing Company to the Minnesota Moline Plow Company, dated October 31, 1895, which reads as follows:

"MINN. MOLINE PLOW CO.,
"Minneapolis, Minn.

"*Gentlemen*: Replying to yours of the 28th woud say that we will be ready to ship you the sample shoe drill by Monday next, and we feel sure that you will be very much pleased with it, and we would quote you the following prices:

8	Shoe	with	Grass	Seeder	$35.00
10	"	"	"	"	39.00
12	"	"	"	"	43.00
14	"	"	"	"	47.00
16	"	"	"	"	51.00
18	"	"	"	"	55.00
20	"	"	"	"	59.00

" Drills without Grass Seeders $2.00 less than above prices.

" Terms for spring trade, that is for all drills ordered shipped prior to May 1, 1896, settlement by note June 1, 1896, payable September 1, 1896.

" If cash is paid on or before June 1, 1896, a discount of 5 per cent will be allowed.

" Terms for fall trade. All drills ordered and shipped after May 1, 1896, are to be settled for by note October 1, 1896, payable January 1, 1897.

" If cash is paid October 1st, 1896, a discount of five per cent will be allowed. The above prices to be with credit of freight at car load rate to Minneapolis.

" We feel sure that when you see our new drill that you will like it very much, and we hope you will also feel as we do.

that the above prices will put you in shape to sell a number of drills for us.

"Now you will observe that the prices are on 8, 10, 12, etc. shoe drills, and that odd numbers are not given; the reason for this is, we do not want to make these drills with odd number shoes, as that would necessarily bring one shoe in contact with the pressure bar in the center bearing, which supports the pressure bar in the center, and would necessitate the moving this bar to one side, which would force us to use with the large drills, two different lengths of pressure bars, a thing, we feel, should not be done. Of course with as small a drill as the 9 hoe, that would not be material, and we could furnish it if so desired, but the large sizes we would very much prefer not to make in the odd numbers.

"Unless we receive a telegram from you countermanding shipment on Monday, we will ship the 12 shoe drill to you at that time, and follow it with tracer.

"Yours truly,

"THE MCSHERRY MFG. CO."

Please look at this letter and state whether or not you recognize it as one that you received from the McSherry Company.

A. I do.

Q. 43. I find here a letter from the Minnesota Moline Plow Company to the Moline Plow Company of Moline, Illinois, dated November 5, 1895, which reads as follows:

"MOLINE PLOW CO.,

"Moline, Ill.

"*Gentlemen*: For your information we enclose herewith a copy of a letter from the McSherry Mfg. Co., Middletown, Ohio. These prices, we notice, are about the same as the National Drill Co., whose goods we had last year, except the McSherry Co. gives us a better price on the widest drills. Of course the National Drill Co.'s prices were f. o. b. Minneapolis.

"We have but one quotation from the Sucker State Drill Co.; they quote car lot rates, 16 shoe drill, $48.00, f. o. b. cars, Belleville. We have not received their sample yet, and we are very anxious to have it to inspect, and as soon as it is received we will report.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

Please look at that letter and state whether or not you recognize it as a letter that you wrote to the Moline Plow Company of Moline, Illinois (showing witness papers).

A. Yes, sir, I do.

Q. 44. Attached to this letter I find what purports to be a copy of the letter from the McSherry Manufacturing Company to the Minnesota Moline Plow Company, dated October 31, 1895, which I have already quoted above; please look at it and see whether I am correct about its being a copy of that letter (showing witness paper).

A. Yes.

Q. 45. I find here a letter from the Moline Plow Company of Moline, Illinois, to the Minnesota Moline Plow Company, dated November 8, 1895, reading as follows:

"MINN. MOLINE PLOW CO.
"Minneapolis, Minn.

"*Gentlemen*: Referring to yours of the 5th instant concerning the McSherry drill, will say, we believe that these people will satisfy us in quality of goods, prices, etc. better than others, and if their sample suits you, we presume it will be a good plan to close a deal on the terms suggested in their letter of the 31st ult.

"If you will advise us, when the sample is received, that the same is satisfactory, we will write us a contract on the basis of their letter, and forward to them for signature.

"Yours truly,
"MOLINE PLOW COMPANY.

"Dictated by F. G. ALLEN, Secy."

Please look at this letter and state whether or not you recognize it as a letter that you received from the Moline Plow Company of Moline, Illinois (showing witness paper).

A. I do.

Q. 46. I find here a letter from the Minnesota Moline Plow Company to the Moline Plow Company, of Moline, Illinois, dated November 18, 1895, reading as follows:

"MOLINE PLOW CO.,
"Moline, Ill.

"*Gentlemen*: Answering your inquiry of the 16th inst. as to prices on the McSherry drill, or if any modification of these prices are necessary, would say that you will see by the schedule enclosed that the prices compare favorably with the drill that Mr. Ougheltree tried to sell here last year.

"As this country depends almost altogether on growing wheat for a livlihood, the drill trade here is as important to the farmers as corn planters to the farmers of Illinois, and if we get a fair start in this trade, we can, beyond doubt, sell three or four hundred of these drills. The National Drill we had last year was so cumbersome, as well as not being adapted to the wants of the farmers, our drill trade did not amount to much; besides it has entailed trouble that will take time to clean up. There are several of these drills in the trade now that have not been, nor never will be, paid for by the dealers, having been returned to them in a broken and dilapidated condition. We are doing all that we can do to get settlements for them, but some dealers flatly refuse to pay for them at any price.

"Herewith we enclose photographic views of the McSherry 10 hoe Drill. Of course, if you can get a less price than this, it will be all the better, but we think that the prices are reasonable, and compare with those sold by our competitors. The diameter of the wheel is 48 inches; to be a wood wheel, 2½ tire for 10 and 12 shoe, and 2¾ tire for 14 and 16 shoe, and we think a three inch tire for the 18 and 20 shoe drills would be best.

"We cannot answer you advisedly as to how strong this drill is, as we have not had an opportunity to test it, but knowing the McSherry folks have been in this business for nearly 20 years, do not think they would run any risk of putting out an implement that would not stand the requirements of the trade, and we would suggest that the deal be closed with them as soon as possible.

"We have submitted photographs to Mr. Bienkhorn, who is very much pleased with it and thinks it is a winner; all our warehouse men and office men as well are favorably impressed with it. The table we give you showing you the different prices are not with the same number of shoes, but we give you the quotations as near as we can, as you will notice the prices on the wider drill is very much in favor of the McSherry; the prices we quote you are without grass seeders.

"We have written the McSherry folks for all the printed

matter, and anything else that would be of value in getting up a catalogue, and all they have at present is photographs and descriptive matter of which we send you copy. We have written them to send you electrotypes of this drill, of one of the 16 or 18 shoe sizes, as soon as they can in order that you may get this printed matter into shape that will be presentable to the trade. We have sent each of our travelers one of these cuts, photographs, but this printed matter is hardly sufficient to be used by them.

"We think that when you take up the matter of contract with them it will be well to make it Minneapolis delivery if possible. We consider the clause in their letter to mean carload rates to this point, but we think we could get Minneapolis delivery on these prices by urging to do so.

"MINNESOTA MOLINE PLOW CO.

"B

"Dictated by T. H. MARTIN, Manager."

Please look at this letter and state whether or not you recognize it as a letter that you wrote to the Moline Plow Company of Moline, Illinois.

A. I do.

Q. 47. I find attached to this letter just quoted above a list of prices, and also a galley proof of what I presume is intended as a descriptive circular or catalogue, and on these two papers I find a stamp mark reading "Moline Plow Co., Recd. November 19, 1895, Moline, Ill." Please look at these two papers and state whether you recognize them as papers accompanying your letter to the Moline Plow Company of Moline, Ill. (showing witness papers).

A. I do.

Q. 48. The first of these exhibits to your letter, if I may so term it, reads as follows:

"COMPARISON COST PRICES ON DRILLS.

McSherry Mfg. Co.		National Drill Co.	
8 Shoe without Grass Seeder,		$33.00,	
10 " " " "		37.00,	
12 " " " "		41.00,	13 Shoe, $44.00
14 " " " "		45.00,	15 Shoe, 50.00
16 " " " "		49.00,	17 Shoe, 55.25
18 " " " "		53.00,	
20 " " " "		57.00,	22 Shoe, 70.00"

The galley proof, which forms the second exhibit, as I may term it, to your letter, reads as follws:

"THE McSHERRY

"ALL METAL SHOE DRILL.

"A successful, convenient, and perfect working drill made entirely of steel and iron, no wood used in its construction, except seed boxes and tongue.

"TO DEALERS AND FARMER:

"It behooves all dealers and farmers, now that there are so many flimsy, awkward, hard-working and poor looking drills on the market, not to be deceived by all that is said about them, but examine carefully, and see if all claims of durability and ease of operation can be carried out in actual work in the field.

"Our experience with drills is very large, embracing many years of manufacture of these machines for trade extending all over the world, so that in offering to the dealer and farmer the McSherry shoe drill, it is with confidence based on knowledge of the requirements of a drill in hard, practical use.

"SPRING PRESSURE.

"The pressure is applied by means of a lever that is in convenient reach of the operator, and while the pressure is applied on all of the shoes at one time, they each have an independent movement, up and down, to pass over obstructions or drop into depressions, so that a perfect job of seeding can be done with this drill in any ground that is adapted to the use of a shoe or runner drill.

"By slipping the casting that is at the forward end of the springs forward or back the pressure can be increased or diminished at the will of the operator.

"The frame is constructed of metal, thoroughly braced, and while very strong, it is not too heavy.

"FEED.

"Our feed is one of the best and most reliable feed devices to be found. It is an adjustable force feed, which is regulated without change of cog wheels. The feed cups underneath the hopper have fluted feed rolls or wheels all attached to the feed shaft by means of which they are revolved and the grain carried out. No grain can escape except it is carried out by the revolution of the wheels. The mouth of the feed cup has an oblique opening, and the grain passing over a spiral lip does away with the possibility of bunching it.

" The cups and wheels are accurately gauged and the indicator plate is plainly marked for quantity and enables the operator to change quantities quickly and easily. The feed cups and rolls are accurately fitted up so that there is no leakage of grain.

" The movement of the lever at the indicator renders the sowing surface large or small by moving the feed rolls. This lever is held in place by a thumb nut, and all that has to be done to change quantity is to loosen the nut, move the lever and fasten again, it will not choke up and the quantity can be very large or small at the pleasure of the operator.

"The ground wheels have ratchet hubs similar to those of mowing machines, and each wheel will drive the axle and operate the feed. This is a great advantage in turning corners, or turning out for any cause where one wheel may not get as much motion as the other.

"The axle is made of cold rolled steel, passing through both hubs and revolves with the wheels when the drill is going forward. When the machine is backed or one wheel is stationary from turning the ratchet allows the wheel or wheels to revolve on the main axle. It will sow all kinds of grain and grass seed as well as wheat, and does not bunch, break or crack the grain. It sows quite as well on all kinds of ground, hilly or level, and it is immaterial whether the horses are driven fast or slow.

" The hopper bottom having heavy sheet iron plates that are arched or crowned between each of the feed openings, renders it impossible for grain to remain in the hopper when the drill is in use and it will sow with the same evenness and regularity when the last grains are going out as when the hopper is full.

" It has high wheels with wide tires giving great bearing surface on the soil, and enables the drill to pass over the loosely pulverized earth lightly. The receivers to which the Gum Tubes are attached, are adjustable, swing freely and adapt themselves readily to any position of the hoes, and they cannot shake off or in any way detach themselves from the drill while in use.

" Each drill has a land measure which accurately measures the ground, but measures only while the drill is actually seeding.

" By the use of a low down hitch that is adjustable, all weight can be taken off the horses' necks while the drill is in use, which is a very desirable feature.

" The Grass Seed Sower is a force feed, easily regulated, and does its work perfectly. It is attached to the front of the

grain hopper, and sows seed broadcast either in front or behind the shoes, by simply turning the board on which the seed falls to slope forward or backward, and it is thrown in and out of gear by lowering and raising the hoes.

"The Springs are made long and are of the best oiled tempered spring steel, allowing them to hold pressure when the runners drop into depressions, and also allow the runners or shoes to raise up in passing over obstructions.

"The Shoes are made of steel and of proper length to insure satisfactory work in trashy ground, but at the same time are not too long.

"Nothing has been neglected in the construction of our Drills, and the result is that purchasers cannot help getting all the latest improvements and a machine that will do first class work in first class style.

"Soliciting favorable consideration, we remain,

"Respectfully,

"THE MCSHERRY M'FG. CO."

Q. 49. I find here a letter from the McSherry Manufacturing Company to the Minnesota Moline Plow Company, dated November 20, 1895, which reads as follows:

"MINN. MOLINE PLOW CO.

"Minneapolis, Minn.

"*Gentlemen*: Your esteemed favor of the 18th received and in reply to same would say that we have the promise of the printed matter for the shoe drills this A. M. and we will send same and electro. to you to-day. We had previously written you about the matter of furnishing wood wheels, which of course we are prepared to do. The writer also called attention in previous letter to the width of tire, and on the large sized drills we should furnish the 3" tire instead of 2½" unless you suggested that the 2½ be used. We have telegraphed you this A. M. with regard to the trussing of the frame and the way it is braced on the large drills. We brace the large drills very thoroughly and have never had any complaint about them being sprung. Of course with a shoe drill there is no opportunity of catching the shoes on obstructions and putting heavy strain on the frame as with a hoe drill, where several hoes may strike an obstruction at one time, but the frame on our hoe drill is so braced as to stand the most rigid tests, and we have not had a solitary complaint of the metal frame being sprung on any of

our drills. The pressure bars on the large drills will have a center bearing in the center of each one as well as the bearings at each end, which will make the large drills, double machines, 5 wrought support. (See the center bearings on 10 hoe sample for the pressure bearings.)

"We shall use on all the double drills or large sized drills double truss rods which will prevent the frame from sagging, and also prevent it from being bowed up when heavy pressure is applied on the shoes.

"Hoping this information together with our telegram this A. M. will fully cover the grounds, we remain,

"Yours truly,

"THE MCSHERRY MFG. CO.

"Dictated by E. M. D."

Please look at this letter and see whether or not you recognize it as one received by you from the McSherry Company (showing witness letter).

A. It is.

Q. 50. I find here a letter from the McSherry Manufacturing Company to the Minnesota Moline Plow Company, dated November 22, 1895, reading as follows:

"MINN. MOLINE PLOW CO.

"Minneapolis, Minn.

"*Gentlemen*: We are in receipt of your two letters of the 20th inst., and in reply to same would say that we will, as soon as possible, have photograph taken of the large drill with the 3" wood wheels, and have cuts and electros, of same made. We will then have cut of 10 hoe drill taken out of circular, and the cut of the large drill inserted in place of it. We hope, however, that the printed matter we have already sent you will be useful, and that you will be able to explain to your customers, fully, what the large drill is, from our previous letters with regard to it, and from further information, which we give you in this letter.

"With regard to the telegram we sent you, we desired that you should understand fully the strong and substantial manner in which the frames will be built on all the large drills that we put out, and we indicated that sizes were all right, which was in reply to yours, regarding the different sizes of drills that we manufacture. As previously written you this drill

will have the same frame that we have used on our large drills, and which has proven very satisfactory. The Parlin & Orendorff Co. wrote us, early in the fall, about the strength of the new metal frame that we were putting out, and we assured them at that time, that they would find frames strong enough, owing to the very thorough way in which they are braced, and they reported, later on, that they were pleased to find that the frames were entirely satisfactory.

"As written you previously, we have never had a solitary complaint about the frames of our drills being sprung, and we spare no pains or expense in the construction of the frame of our large or double shoe drills, although they can not be subjected to as rigid a test as the hoe drill might be. The frame of the large or double drills will have ten and one quarter inch by one quarter inch bracing, and in addition 4 cross girths and 2½ inch truss rods. In addition to this the hopper will be connected with the tongue by braces.

"Of course a large frame, such as you would want for drills in your territory, must be thoroughly braced and trussed or it would prove unsatisfactory, but you can rest assured of the fact, that we fully understand and appreciate the importance of this matter, as well as yourselves and we shall not neglect it in the least. It shall be our aim, should you favor us with your patronage, to furnish you strictly first class goods, and we shall certainly spare no pains, whatever, in their construction.

"The writer has had more than fourteen years of experience in the drill business exclusively, and fully appreciates the importance of sending out nothing but good goods that have been thoroughly tested, as it certainly is an exceedingly unfortunate matter for manufacturers and dealers both, for any mistakes to be made, as it is a great annoyance where defective parts have to be repaired or replaced in the field; in fact the factory is the place to build the goods.

"We have as yet heard nothing from the home office at Moline, and of course the sooner you give us definite information about the matter the sooner we will be prepared to look after your wants, and if you will kindly acquaint us by return mail, what you wish with regard to territory etc. and specifications for machines, we will promptly fill out and mail contracts to you for your signature.

"Very truly yours,

"THE MCSHERRY MFG. CO.

"Dictated by E. M. D."

Please look at this letter and state whether or not you recognize it as one received by you from the McSherry Company (showing witness letter).

A. I do.

Q. 51. I find here a letter from the Minnesota Moline Plow Company to the Moline Plow Company, dated December 30, 1895, which reads as follows:

"MOLINE PLOW CO.,
"Moline, Ill.

"*Gentlemen*: We have yours of the 28th inst. referring to printed matter and cuts of the Defender cultivator and are pleased to know that we will get some of this printed matter soon. As previously written, we are already in possession of some of the printed matter made by the Elmira people; we also have tablets from the Ohio Rake Co., which are now in the hands of our travelers, which are very good cuts and make good printed matter to carry.

"Referring again to printed matter for drills will say, on Nov. 18th when we sent you the electrotypes from here, we advised the McSherry Mfg. Co. to forward you samples of their printed matter, suitable for getting up catalogue, with all the wide cut electrotypes. We the same day forwarded you from here the narrow, or 10 hoe drill.

"We enclose herewith some printed matter from them embodying such matter as would be suitable for this trade. We will again advise them to forward to you at once electrotypes of the wider drills, and if you think you can get out the printed matter from there in good time; or, if you think it best, we can have the McSherry folks get the printed matter out and send us from Middletown, Ohio, as they seem to have facilities there for it. The cut we enclose herewith would answer the purpose, if it showed the wide drills; the reading matter is very good as it describes its points of excellence very clearly, and it catches the trade. We supposed they had sent you the electrotypes and copies of the matter entering into the description, or we would have looked it up sooner.

"Yours truly,
"MINNESOTA MOLINE PLOW CO.
"T. H. MARTIN, Manager."

Please look at this letter and state whether or not you recognize

it as a letter that you wrote for the Minnesota Moline Plow Company to the Moline Plow Company, of Moline, Ill. (showing witness letter).

A. I do.

Q. 52. I find attached to this letter just quoted above a four-page circular, entitled "McSherry Shoe Drill," showing a cut of a 10 shoe drill on the first page, rear view, and a cut apparently of the same drill on the last page, front view, with a receipt mark reading, "Moline Plow Company, Rec'd. December 31, 1895, Moline, Ill." Please look at this exhibit, as I may term it, to this letter of December 30, and state whether or not you recognize it as a circular that you sent with that letter to the home office at Moline, Illinois (showing witness circular).

A. I do.

Q. 53. Please look at the reading of the galley proof description quoted above, and the reading of this catalogue attached to your letter of December 30, 1895, and state whether you find the two to read the same (showing witness papers).

A. I do.

Q. 54. They appear to be verbatim copies one of the other, do they not?

A. They do.

Q. 55. I find in the description of the shoe drill contained in the galley proof of the McSherry catalogue submitted by the McSherry Manufacturing Company to the Minnesota Moline Plow Company during the negotiation of the contract between them, and which is stamped as received at Moline, Illinois, November 19, 1895, as well as in the catalogue itself, which is stamped as received at Moline, Illinois, December 31, 1895, that stress is laid on the all-metal character of the McSherry drills, on their steel frames, on their adjustable force feed, on their high carrying wheels with broad tires and both acting as drivers, on the lever for applying pressure to all the shoes at once while maintaining their independence of action, on their cold rolled steel axles revolving with the wheels when the drills are going forward, on the construction of the shoes, on

the means for measuring the ground seeded, on the ability of the drills to sow all kinds of grain as well as wheat, on the low-down, adjustable hitch by which horses' necks were relieved of the weight, on the grass seed sower that could be attached to the front of the grain hopper and sow broadcast in front of or behind the shoes, on the hopper bottoms having heavy iron plates arched between the feed openings, on the means for adjusting the quantity of grain sown, on the durability of the drills, their ease of operation and their ability to do first-class work in first-class style, as well as on the rod spring pressure device; isn't this the fact, both as to the galley proof and the catalogue?

A. It is.

Q. 56. Out of the 89 printed lines of the galley proof and catalogue describing the drills which the McSherry Company was negotiating to sell you, isn't the description of the construction of the spring pressure device confined to 39 words, forming only three full lines with a part of the last word on the fourth line; please examine the galley proof and catalogue and state whether I have got the facts correctly?

A. That is correct.

Q. 57. Do you find in the description of the galley proof and of the catalogue any greater prominence given to the description of the spring pressure device than to a dozen or more other things?

A. No. I would say in regard to the frame here, the rigid steel frame that they changed subsequently, that is what suggested the change in the contract, of raising the front of the shoe, shoe arm and shoe drag bars, and substituting a piece of heavy hickory instead of an angle iron in the front part of the frame.

Q. 58. Please state whether or not the spring pressure device and its peculiarities of construction was discussed in conversation or correspondence during the negotiations leading up to the contract between the McSherry Company and the defendant company.

A. It was, to this extent: to know that it was perfectly satisfactory, and as good as others that were in use, but every feature, every

part of the drill was discussed in detail, wheels, frame, axle, shoe, spring, feed boxes and everything.

Q. 59. State whether or not the peculiar construction of the spring pressure device of the McSherry drills was the feature above all others that caused you to buy them from the McSherry Company.

A. It was not.

Q. 60. Please state whether or not it was given greater weight than other features in settling the matter.

A. I can't say that it was. It was considered favorably, however. There was no objection to it, but other parts had to be favorable or the spring pressure would be of no account.

Q. 61. Please state whether or not the presence of the rod spring pressure device enabled the defendant to sell these drills, so far as you know or ever had reason to believe.

A. You mean whether it assisted in selling them or——

Q. 62. I mean to ask you whether or not it was the special or particular feature that enabled the defendant to sell its shoe drills?

A. I don't think so.

Q. 63. Do you find in the contracts any specification that the drills shall have any particular kind of spring pressure device?

A. Nothing further than that they were using.

Q. 64. (Showing witness paper.) I will ask you to look at the letter of the McSherry Manufacturing Company dated November 22, 1895, and state what part or feature of the drill was particularly the subject of solicitude and discussion, so far as appears from that letter.

A. It was the matter of the frame being all made of angle iron. I wanted the piece of angle iron taken out and a hickory beam substituted instead.

Q. 65. The frame was the particular matter discussed in that letter, was it not?

A. It was.

Q. 66. What particular attention is paid by dealers, or was paid by you and your company, to the matter of the frame of the drill?

A. Well, they want something that is solid and firm; that will

wagiac was making a good drill, but other springs, all other considerations being equal, would not have deterred me from making the contract.

MR. CHAPPELL: That is objected to as stating a conclusion of the witness.

Q. 75. Was any special importance attached to that statement in that letter?

A. It had some weight, of course, by reason of the general character of the drill; but not sufficient to have influenced us to make a contract, unless all other conditions were equal.

MR. BANNING: The defendants' counsel states that he has here present, of course, the letters which he has read into his questions, and other letters from the McSherry Company, which are open for the inspection and consideration of complainant's counsel.

The further taking of testimony in this matter was here adjourned until 1:30 o'clock P. M.

The deposition of Mr. Martin was suspended at this point to enable defendants' counsel to examine other witnesses who are present from a distance, and also to go to Fargo, North Dakota, and examine some witnesses there. See depositions of Nels Lundgren, *et al.*

Wednesday, August 30th, 1905, 3 o'clock P. M. Met pursuant to adjournment from Fargo. Present, same as before.

The examination of Mr. T. H. Martin is resumed by Mr. Banning, as follows:

Q. 76. Since my examination Monday I have examined a number of other letters, some of which I desire to call your attention to, and I will read them as I find them in the letter press copy books of the Minnesota Moline Plow Company, to which book I believe complainant's counsel makes no objection. I find on page 372 of Letter Press Book No. 6 a letter dated October 4, 1895, and written by

hold the shoes firmly in place. Angle iron is liable to buckle; what we term buckling is doubling up; condensing the arms of the shoe closer together, coming in contact with some object, or turning corners in muddy ground.

Q. 67. Is the frame necessarily an important part of a shoe grain drill?

A. It is.

Q. 68. State, if you know, why the McSherry Company furnished you with the reading matter shown in that galley proof during the negotiations leading up to the contract between the companies.

MR. CHAPPELL: That is objected to as calling for a conclusion of the witness.

A. I called for it to know what they were making.

Q. 69. And is that also true as to the catalogue?

A. It is.

Q. 70. In which the same reading matter is repeated?

A. It is. Let me say right here, this change in the frame was suggested from this 10 shoe drill. An angle iron would do for that drill, but in this northwestern country they use drills of much greater width. Had to be strong. The frame had to be strong.

Q. 71. Do I understand you that pending the negotiations you suggested the strengthening of the frame over what is shown in the 10 shoe drill?

A. Yes, sir.

Q. 72. Illustrated in this catalogue?

A. Yes, sir.

Q. 73. Was that because of the importance that was attached to the frame?

A. It was.

Q. 74. In this letter of October 19, 1905, by the McSherry Company to your company, they state that the pressure was similar to that on the Dowagiac; did that statement influence your company in making the contract?

A. Well, it didn't deter me from making it. I knew the Do-

the Minnesota Moline Plow Company to the McSherry Manufacturing Company, which reads as follows:

"McSherry Manfg. Co.,
Middletown, Ohio.

"*Gentlemen*: We have your favor of the 2nd inst. and note fully what you say with reference to trade on drills. Owing to change in managers at this point the matter of contracts has been somewhat delayed. We, however, have placed no orders for our wants for the coming year as yet for this line.

"We are willing to entertain your proposition to send us one of the samples you refer to, and if, upon examination, it proves to be satisfactory, and the prices suitable, we may consult you further in the matter, and possibly adopt to our use; this, however, depends upon prices.

"Yours truly,
"Minnesota Moline Plow Co.

"Dictated by T. H. Martin, Manager."

Why did you lay so much stress on the matter of prices in this letter which is quoted above?

A. Well, we wanted to be in a position to make as good prices to our dealers as other jobbers. We wanted to buy as low as possible. That is one of the points in the trade.

Q. 77. I find a letter from the Minnesota Moline Plow Company to the McSherry Manufacturing Company, dated October 21, 1895, which reads as follows:

"McSherry Mfg. Co.,
"Middletown, Ohio.

"*Gentlemen*: Answering yours of the 19th inst., in regard to your proposition to send us a sample of one of your smaller drills would say, of course we would be glad to see it, if it will meet the wants of the trade here.

"Our strongest competitor here is the Dowagiac drill, and if you have something embodying some of the same features, it would enhance your prospects for a deal with us, provided, of course, that the prices were in line with the other drills we have been offered.

"Before sending this please quote us prices approximately as to what your 15, 17 and 19 shoe drill, fully equipped for this

trade, would be, and at the same time let us know positively when you could get a sample to us. Please answer by return mail.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

I notice in this letter a reference to the Dowagiac drill as being one of your strongest competitors; please state what the fact was about that, if you remember.

A. Well, at that time the Dowagiac drill was a good drill, considered so in the trade, from the fact of its being built light, fine shoes, good springs and a good seeder as well, and it was favorably spoken of.

Q. 78. It was one of your principal competitors, was it?

A. It was, yes, sir. It was one of them. It was not all of them by any means. It was one of the principal competitors and it ranked with the Kentucky, the Superior, the Monitor and some of the others. That had reference to a former correspondence, I think, in which he spoke of it having some points similar to the Dowagiac. I asked Eichelberger what he had in drills suitable for this northwestern trade, and in his answer to that he said they had made a drill for four years that was very suitable for this trade, and volunteered the information that they had a spring and spring pressure somewhat similar to the Dowagiac. That was the first I knew of that part of the drill, and this correspondence refers further, I think, to that letter of his in answer to my inquiry.

Q. 79. This letter from you of October 21, 1895, says that it is in answer to a letter from the McSherry Company of the 19th inst.; the McSherry letter of October 19th, 1895, has already been quoted into your deposition; I will ask you to look at it to refresh your mind as to its contents (showing witness paper).

A. That is the same letter, yes, sir.

Q. 80. This is the letter referred to in your last answer?

A. Yes, sir.

Q. 81. This letter to you from the McSherry Company just

quoted above, says that if they have drills embodying some of the same features as those contained in the Dowagiac drill it would enhance the prospect of making a deal; please enumerate such features as were referred to in this statement, as far as you recollect them.

A. The main features were its being light, and a fine shoe, and it had a good spring; good spring pressure; had the reputation of being a good seeder, and was generally satisfactory to the trade.

Q. 82. You were anxious to have the drills that you contracted for equal to the Dowagiac, were you?

A. Yes, sir.

Q. 83. In all desirable features?

A. Yes, sir.

Q. 84. At that time did you know that the spring pressure device on the McSherry drills was an infringement of the Hoyt patent sued on in this case?

A. No, sir, I didn't know of it until some time afterwards. Two or three years, perhaps.

Q. 85. I find a letter from the Minnesota Moline Plow Company to the McSherry Manufacturing Company, dated October 28th, 1895, reading as follows:

> "McSherry Mfg. Co.,
> "Middletown, Ohio.
> "*Gentlemen*: We note that you will ship us sample drill next week; we will be pleased to receive and examine it carefully, and will soon know whether it is what we want. We hope to have your prices and catalogue soon, as our ability to use it will depend largely on the prices you make to us.
> "Yours truly,
> "Minnesota Moline Plow Co.
> "Dictated by T. H. Martin, Manager."

Please look at this and state whether or not you recognize it as a letter written by the Minnesota Moline Plow Company to the McSherry Manufacturing Company at your dictation.

A. It is.

Q. 86. I notice the matter of price is again mentioned in this

letter of October 8th, as well as in the other letters; you may state what the fact may be as to the importance that the matter of prices would cut in your efforts to make sales of drills throughout the northwest territory.

A. Well, we wanted a price that was reasonable, fair and just, that would put us on a footing with that of our competitors. We had been offered other drills at prices that we thought were reasonable, and we didn't want to pay more for the drills than we could buy them from some place else; from some other house.

Q. 87. I find here a letter from your company to the McSherry Company, dated November 14th, 1895, reading as follows:

"McSherry Mfg. Co.,

"Middletown, Ohio.

"*Gentlemen*: Herewith we inform you that the sample drill has been received and set up. After examination we are free to say that we like the appearance of it very much, and are inclined to think that we can use it advantageously in this trade. Of course, your prices are somewhat higher than others have quoted us for a drill very similar, but quotations were made by houses that are slow in filling orders as a rule.

"We have instructed our home office to take up the matter of making contract with you for this drill for the coming year, as most contracts for branch houses are made by the home office. We wish to say, however, that we will need to have wood wheels, with the same width tire as the steel wheels on the sample sent us, as the steel wheel, owing to the thin rim, licks up the dirt and carries it around, besides digs into the ground in turning the corner, while the wood wheel, with a felloe does not do so.

"After the home office has considered the case as we have presented it to them, and write you with the view of trade relations for next year, and the matter decided upon, we will give you our specifications for such as we will want on first order, but the most of the drills used in this section are 16, 18 and 20, 6 inch shoe, with a very few of a narrow width in use.

"Please send us at once from your office all printed matter you may have illustrative of this drill, also any good cuts or photographs you may have. Supply us at once as we are anxious to get our catalogue completed at an early date, in order

to equip our travelers for the fight before them, which will be a warm one this year, as the Dowagiac, the Monitor of this place, and several others are putting forth a strong effort to capture the drill trade for this section, and we want to enter the fight on an equal footing with them. Please send the illustrative printed matter, and any cuts you may have by first mail.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

Do you recognize that as a letter written at your dictation?

A. I do.

Q. 88. To the McSherry Company?

A. I do.

Q. 89. I find a letter from the Minnesota Moline Plow Company to the McSherry Manufacturing Company, dated November 18, 1895, which reads as follows:

"McSHERRY MFG. CO.,

"Middletown, Ohio.

"*Gentlemen*: We acknowledge receipt of yours of the 15th inst. in answer to our telegram, which explains the absence of printed matter desired. We have received the photographic cuts which look very well. We presume you have received before this our previous letter on the subject of wood wheels and wider drills for this trade.

"We would repeat that the drills that are used here are 14, 16, 18 and 20, 6 inch shoe, with wood wheels. We have not heard from you anything that would indicate that you could supply us with these; please inform us as soon as you possibly can, at the same time inform us whether the drill, the photographs of which you sent, has been thoroughly tested in the wider drills and is known to be amply strong for the trade.

"Please answer at once as we are anxious to get in line for the coming trade, for what we see of your drill we think we can use it.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

Why were you solicitous about the width and the strength of the drills which you were negotiating for with the McSherry Company?

A. There was no other drills used in this wheat growing country except those of wider sizes, and additional widths require additional strength.

Q. 90. That is, strength of frame?

A. Strength of frame, and proper trussing under the feed box.

Q. 91. Under date of November 20, 1895, I find a letter from your company to the McSherry Company, reading as follows:

"McSherry Mfg. Co.,
"Middletown, Ohio.

"*Gentlemen*: Acknowledging receipt of your of the 18th inst. we are pleased to note that you are getting yourselves in line, ready to supply us with drills as soon as the house completes negotiations with you for same. Also note that you are getting up electrotypes for goods. We will say right here, and emphasize it, that it is necessary for us to have cuts of wide drills, say 18 and 22, wood wheels, with 3 inch tires.

"We beg of you to get these ready for us as soon as you can and send us about five or six good, clear, clean cuts, just as soon as you are ready to do so. In the absence of other printed matter we want to put these in the hands of our canvassers, who are now out working and taking orders. We have to meet the strongest kind of competition; the Monitor drill of this place, the Dowagiac of Michigan, and a dozen others are in the field, all contending for the trade.

"Yours truly,
"Minnesota Moline Plow Co.
"Dictated by T. H. Martin, Manager."

This was a letter dictated by you to the McSherry Company, was it?

A. It is, yes, sir.

Q. 92. I find a letter from the Minnesota Moline Plow Company to the McSherry Company, dated November 22nd, 1895, which reads as follows:

"McSherry Mfg. Co.,
"Middletown, Ohio.

"*Gentlemen*: We have yours of the 20th inst. in explantion of the telegram of same date. We are pleased to note that you consider this drill as being amply strong for all the require-

ments of the trade, and also, as we have written you before, we will want the wood wheels, 2½ inch tire for the narrow drill and a 3 inch tire for the wider drill. We presume you have heard from our home office at Moline before this time, as to the matter of making contract and placing first order.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

You recognize that letter do you?

A. I do, yes, sir.

Q. 93. I find a letter from the Minnesota Moline Plow Company to the McSherry people, dated December 17, 1895, reading as follows:

"McSHERRY MFG. CO.,

"Middletown, Ohio.

"*Gentlemen*: We wish to inquire whether you have had any trouble with your wide drills heretofore; for instance, the 18 and 20 shoe drills. The reason why we make this inquiry is, some of our competitors are trying to convince our dealers that your drill will not stand up to the work, in the wide drills, with the steel frame.

"Please advise fully on all points pertaining to this inquiry, as we want to be sure of our bearings before we enter the field with it. By the present outlook we are encouraged in the belief that we will have quite a trade in drills the coming year, and we would not by any means be prepared for any emergency so unexpected, as that of a breakdown in the field.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

That is a letter written by you is it?

A. Yes, sir.

Q. 93*a*. I find here a letter from the Minnesota Moline Plow Company to the McSherry Company, dated December 18, 1895, which reads as follows:

"McSHERRY MFG. CO.,

"Middletown, Ohio.

"*Gentlemen*: There seems to be some objection with the dealers on account of the construction of the lever for raising

and lowering the shoe. The matter has come to our notice a time or two and it has been suggested that a lever, similar to cut enclosed, is much preferable, as it is like the Monitor and Dowagiac, which is very popular here. Would it be much trouble for you to change the lever to one of this shape? An early reply will oblige,

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

Do you recall anything about this lever for raising and lowering, mentioned in this letter of December 18th, 1895?

A. Yes, sir, I do.

Q. 94. I notice that you speak of a cut enclosed; can you tell us what that cut was?

A. I don't recollect which cut it was taken from, but it was a cut that I wanted them to adopt as an improvement.

Q. 95. You state that is is like the Monitor and Dowagiac; in what respects was the lever shown in the cut similar to that of the Monitor and Dowagiac?

A. Well, it was similar to those used by them, and I think the Kentucky used the same. In fact, most of them adopted that same lever later on.

Q. 96. Was it a lever of any peculiarity of construction?

A. Only a little different in the turn of the handle, so that we could grasp the handle of the lever from the center of the drill, where you didn't have to walk to each end, walk through the mud, for instance, to operate it. You could operate both levers from the center of the drill.

Q. 97. Whereas before that what was the arrangement of levers?

A. The lever was in the center of each section.

Q. 98. Instead of both levers being in the center; is that the idea?

A. That is the idea.

Q. 99. I find a letter here from the Minnesota Moline Plow Com-

pany to the McSherry Manufacturing Company, dated December 24, 1895, reading as follows:

"McSherry Mfg. Co.,
"Middletown, Ohio.
"*Gentlemen*: We note what you say about the drill; we presume you are correct in the position that the center lever gives better control over the action of the drill than those parted at the ends.
"' How soon will you be able to send us the first car-load? We are needing them very bad as samples. You have not answered our inquiry of recent date as to the possibility of the drill becoming twisted in the wider drills. Have you ever experienced and difficulty of this kind in any of the 18 and 20 shoe drills? We await your reply with considerable anxiety.

"Yours truly,

"Minnesota Moline Plow Co.

"Dictated by T. H. Martin, Manager."

I notice that this letter I have just quoted speaks about a center lever; please state whether that is the lever referred to in the letter quoted before the last one.

A. It is.

Q. 100. Please tell us whether or not the McSherry Company accepted favorably your suggestion about the modification in the lever.

A. They didn't at first. Their argument was good at the time. A section of a drill can be operated easier, more accurately, from the center than it can from the end, but much harder on the operator.

Q. 101. Why is it harder on the operator?

A. They have to walk from one side to the other, while if the levers are both at the inside end they are right at their hands to grasp them at once.

Q. 102. By the term "center lever," what is meant in this letter?

A. A lever placed in the center of the drill, at the inside sections of each drill or the inside ends of each section.

Q. 103. What do you understand that the term "center lever" in this letter refers to; a lever at the center of the drill, or a lever at the center of each section of the drill (showing witness letter)?

A. That refers to the center of the section instead of the center of the drill.

Q. 104. What is meant by the reference here to those sections as "parted at the ends"?

A. That would mean a lever placed at the ends, the inside ends.

Q. 105. Of the two sections?

A. Of the two sections.

Q. 106. I notice in this letter of December 6th, 1895, you speak of drills becoming "twisted" in the wider ones; what did you have reference to there?

A. Well, that is where the frame would buckle up; would become twisted and warped, without proper bracing or without proper weight of material.

Q. 107. Was that one of your anxieties about the wide kind of drills?

A. It was; that was one of them.

Q. 108. I find a letter from the Minnesota Moline Plow Company to the McSherry Company dated January 27th, 1896, which reads as follows:

"McSherry Mfg. Co.,
"Middletown, Ohio.

"*Gentlemen*: The car of drills from you has just been received and we must express our disappointment and indignation upon opening the car to find the drills are not in accordance with the terms of the contract. We supposed that we were getting a steel frame drill from you, according to the sample sent us, and printed matter, which enters into the terms of the contract, but we find a large piece of wood, instead of the main steel cross piece in those received to-day.

"We must have an explanation of this at once, and we do not know that we will be able to dispose of any of these drills, as those which we have sold were to be of entirely steel frame, as represented in your printed matter and cuts which we enclose herewith, indicated between the brackets. Aside from this the shoes are not at all what we thought they would be, or what they are represented to be; they are not finished regular in form, and some of them are so soft that they could be easily cut with a knife.

"This has been a serious objection to drills in this territory heretofore, and in fact we fear that we are no better off than if we had not made a contract. Please let us have an explanation of this matter upon receipt of this. We would ask you to read over your contract, compare it with the printed matter sent us, and see if you can blame us entering this complaint; we are not in any humor at this date to treat this matter lightly.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"T. H. MARTIN, Manager."

Please explain why you laid so much stress and importance on the matter of the frame, and on the matter of the shoes, in this letter just quoted above.

A. The frame, I feared, would not have the strength, and would be objected to by the trade. Subsequently I found that the wood frame was strong enough for every purpose, and in fact, was superior to the angle iron. The objection to the shoe was that it was not finished as well as some drills that I had seen, and in some parts of this territory it required a harder shoe than those on the drill sent us.

Q. 109. Please tell us from your experience in dealing in grain drills how much the salability of shoe drills depends upon the character of the frame, and the character of the shoes with which they are equipped.

A. The shoe is an important factor in a drill. It has to be neat; the trade requires a neat shoe, made of good material, and a shoe that is short in length, so as to make as little friction as possible in making an incision in the ground. It is important to have the frame of sufficient strength to hold the shoe and the arms in the proper place.

Q. 110. I find a letter from the Minnesota Moline Plow Company to the McSherry Company, dated January 29, 1896, which reads as follows:

"MCSHERRY MFG. CO.,

"Middletown, Ohio.

"*Gentlemen*: Since writing you on the 27th inst, we have given the drill question considerable attention and have care-

fully examined the drills as sent us. We shall try to get the dealers to accept them with the wood cross beam instead of the steel beam as on sample and printed matter, provided we can do so. We find a very serious objection to the drills in the way the shoes are finished. Almost uniformly they are rough on the under side, not ground to an edge and have open places for catching trash, especially the roots of grass, which is a very serious objection in this western country. This will prevent the shoes from scouring, and in fact we are quite certain that they are not salable at all in this region. For your consideration we return one to you to-day by express. Your foreman certainly has not given this any thought whatever or he would not allow goods to pass out of his hands in this condition.

"As we wrote you before, we are in a very bad humor about this drill business, and do not know what the outcome will be. We do not propose to be unreasonable, but we certainly have grounds for complaint.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

How far was the anxiety expressed in the above letter in reference to the shoe really felt by you at the time you dictated the above letter?

A. I gave full expression to my feelings there as I felt at that date, because it was a matter of vital importance.

Q. 111. You seem to have been pretty anxious about the matter; was that the fact?

A. I was.

Q. 112. Who was Thomas Blenkhorn?

A. He was one of my travelers at the time.

Q. 113. Traveling in what part of the country?

A. He traveled in North Dakota, northern Minnesota and in Manitoba.

Q. 114. I find here a letter in letter press book No. 6, of the Minnesota Moline Plow Company, dated October 18, 1895, and signed by T. Blenkhorn; is that the Thomas Blenkhorn just referred to?

A. Yes, sir.

Q. 115. This letter of October 18, 1895, so far as it relates to the drill business, reads as follows:

"MINN. MOLINE PLOW CO.

"Minneapolis, Minn.

"*Gentlemen*: Referring to your esteemed favor of the 11th instant regarding merchandise goods necessary to equip us for the coming trade of 1896 on my territory, I will first take up the matter of drills: For up North we need a steel frame drill, as near like the Dowagiac as possible, sizes, 15, 17 and 22 shoes, 6 inches apart, built much lighter than the drill we handled this last year, which proved very detrimental to our trade on account of the weight of the drill frame and the weakness of the axles. In fact, it has done us more injury than good, unfortunately.

"Then for our Manitoba trade such a drill as is made by the Sucker State Drill Co., coil spring, steel frame, would take well there, as it costs considerably less and could be sold at a lower price in order to compete with the Monitor drill, which is being sold cheaper than was the drill we handled last year. The prices of our Minneapolis drill which we had last year, are too high. A steel frame drill would sell better, especially if it would be put in at a lower price. This is a necessary implement for us to sell in order to make up carload lots of mixed goods—being in this respect just as essential as buggies have been in so doing."

The balance of the letter from Mr. Blenkhorn appears to relate to wagons, buggies and other matters. I notice that in this letter Mr. Blenkhorn says that up north he needed "a steel frame drill, as near like the Dowagiac as possible." Was the Dowagiac using a steel frame for their drills at that time?

A. Why, I presume they were. This letter was brought out in answer to my inquiries as to what line of merchandise would be best suited for that trade, as he was one of our best travelers and was in a position to know what would be best, and I presume that they were using a steel frame at that time.

Q. 116. Mr. Blenkhorn also speaks of the Sucker State drill with a coil spring and steel frame; what do you understand those coil springs mentioned had reference to?

A. Why, it is their peculiar manufacture. They used a coil spring on all of their drills.

Q. 117. For what purpose?

A. Spring pressure.

Q. 118. On the shoes?

A. On the shoes.

Q. 119. He also speaks of the Sucker State drill having a steel frame; you may state what the fact may be as to the general adoption about that time of steel frames for drills.

A. All of the drill companies were adopting a steel frame for the drills, they among others, and did so to be in line with the trade, especially on their wide shoe drills.

Q. 120. I find a letter written by the Minnesota Moline Plow Company to your traveling agent, Mr. Blenkhorn, dated November 15th, 1895, which reads as follows:

"MR. T. BLENKHORN,
"Grand Forks, N. D.
"Care of Hotel Northern.

"*Dear Sir*: The writer has just been to Moline attending the monthly meeting of the managers, hence your mail has not been answered before this date. We have decided upon using the McSherry drill; we have a sample of same, also sample of the Sucker State drill set up on the floor, and the McSherry is by far the better of the two, prices being about equal; the McSherry has several points over the Sucker State. In fact we consider it one of the handsomest on the market.

"We will send you cuts of it and descriptive matter by the first of the week. We are sure it will knock out the Monitor and stand up favorably alongside of the Dowagiac or any drill on earth. It is a beautiful black steel frame, every part strong and well made of the very best material that can be had upon the market. We have hammered them day after day until we have got a better price than we got on same from the National Drill Co. for the mongrel they sent us last year.

"We note there is a number unsettled for, as you stated, of these National drills. Now, will you, at an early date, send us a list of these drills that you know are on hand at various points, the sizes, parts that are defective; if axle, state so, or

other parts, state so. Before closing finally with the National Drill Co. we want to get all parts necessary to make these drills good so we will be in position to fix them up, and try to make disposition of these drills later at some price. We want a list of all parts needed, and order them from the National Drill Co., as the contract compels them to make all defects good.

"This was one of Oughcltree's bulls, and the reason we want to be so explicit in the matter is, we have an account against him in which we charge to him all matters of this kind, so we want to send him a copy of it to show him he was not the man that he thought he was; that his judgment was at fault in this as well as in other things. Do not fail to send us this list at as early a date as you possibly can.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

I notice in this letter that you emphasize or call particular attention to the appearance of the McSherry drill, and to its beautiful, light steel frame, the strength of the frame, and the materials out of which the drill was made; I will ask you to state, as a man experienced in the handling of drills, how far, if at all, the salability of a drill depends upon its appearance, as well as upon other things?

A. It helps very much, but the appearance would not go very far if all other parts were not perfect.

Q. 121. It is one of the factors, is it?

A. It is one of the factors in the sale. The dealers demand an implement of good appearance, and so do the farmers.

Q. 122. What have you to say as to the appearance of these McSherry drills that were got and sold from the McSherry Company?

A. The general appearance was of the best of any drill on the market, barring the defects that are referred to in my letter to them.

Q. 123. Who was H. F. Anderson?

A. H. F. Anderson was a man I had in Manitoba in charge of the business at that point.

Q. 124. A traveling agent for the Minnesota Moline Plow Company?

A. He traveled occasionally and did the office work, and had general charge there, under my instructions.

Q. 125. A kind of sub-manager of yours?

A. Yes, sir.

Q. 125*a*. I find a letter from the Minnesota Moline Plow Company written to Mr. Anderson, under date of November 15, 1895, which reads as follows:

"MR. H. F. ANDERSON,

"Winnipeg, Man.

"*Dear Sir*: As there are some unsettled accounts in the western part of your territory running out of Winnipeg, on the main line to Qu Appelle, also on the northwestern line running out of Portage La Prairie to Birtle, and the line running from Winnipeg to Souris; we mean the three lower lines; we think it will be well to get these accounts settled; get all the cash on accounts due and notes on the balance, and we will, in a day or two, send you such statements of accounts and will suggest that you run out and make these settlements, at the same time feel the trade closely as to what you can do on contracts.

"We will send you blank contracts, and if you can close with any of these parties now, get what you consider their full order for next year; write them up at once. You can also stop at intermediate points and pick up any new trade that might happen to be in sight.

"As to the drills, we have secured a fine steel frame drill made by the McSherry Mfg. Co., Middletown, Ohio, and it is a dandy. The shoes run in even numbers from 12 to 20; it is a beauty; it is well braced, light and does not drag on the horses' necks. We will try and send you a photograph of it before starting out, with some nice printed matter.

"We will also send photographs of our new steel rake at prices at which you can sell; as to wagons we have not yet made contract with the Fish Bros. Wagon Co., but will have as good a wagon as there is at the same money. Having increased our line of buggies we will have a better stock than we had last year.

"The house advises us that it will be well for the travelers to commence making contracts now, and if they have to go over the territory again to fill up on wagons and buggies, etc.,

it will be well to do so. We will be fully equipped soon for a strong fight in that territory.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

Do you recognize that as a letter written by your company to Mr. Anderson?

A. Yes, sir.

Q. 126. In one of the letters quoted above written to the McSherry Company, you complained of the rough, unfinished edges of the shoes; if you remember, please tell us what you did towards correcting this defect.

A. They made the proper corrections in the matter of shoes; sent us shoes that we could use.

Q. 127. Those that you had already sent out to Mr. Blenkhorn and Mr. Anderson, if any, what did you do to correct, or to have corrected, the defect in those shoes?

A. We didn't ship any out until they were made correct. We returned the shoes, if I recollect correctly; returned the shoes and had them polished. There may have been a few shoes out on samples that we would not allow to go out to the trade.

Q. 128. I find a letter from the Minnesota Moline Plow Company to Mr. Anderson, dated January 31, 1896, which reads as follows:

"MR. H. F. ANDERSON,

"Winnipeg, Man.

"*Dear Sir*: In the sample drills sent you and which we wrote you about yesterday, there are quite a good many of the shoes that are rough and unfinished on the under side. We have called the foreman from the shop here to discuss this matter, and he advises that we find some local parties who have emery wheels or machines for grinding of some kind, and to have them trimmed up nicely before going out. Now what we want to say to you is for you to arrange with some one who can do the work and have this edge straightened up and have it sharpened and touched over with some blue stain of some

kind before allowing it to go out. Make the best bargain you can to have this work done. Have them drawn to the foundry and fixed up without anyone knowing anything about it, and send the bill to us.

"Yours truly,

"MINNESOTA MOLINE PLOW CO.

"Dictated by T. H. MARTIN, Manager."

I notice that this letter speaks of sample drills; is that what you referred to in your answers above, where you spoke about the way you had the defects of the shoes remedied where they had been sent you as samples?

A. Yes, sir. There was some samples—there was a car lot received, a good many of which were in that condition.

Q. 129. You may state whether the defects in the shoes were afterwards remedied by the McSherry people.

A. They were. We had them fixed and they paid the bills.

Q. 130. I notice among the list of purchasers of McSherry drills from the Minnesota Moline Plow Company are a number of parties in Manitoba, Canada; please tell us how those sales were made to these parties in Canada.

A. They were straight sales, but settled for by cash or by notes at a given time.

Q. 131. Who effected these sales?

A. The first year of 1895 and 1896, Thomas Blenkhorn and H. F. Anderson were the salesmen.

Q. 132. Were the sales made in Canada or here at Minneapolis?

A. They were made in Canada.

Q. 133. Your traveling salesmen visited them and made the contracts?

A. Yes.

Q. 134. At their places of business in Canada?

A. Yes, sir, and a few of them came to our branch house in Winnipeg and made contracts there.

Q. 135. I notice in some of the letters which have been quoted reference to circulars or printed matter sent to Mr. Anderson or

Mr. Blenkhorn in the fall of 1895, to give them an idea as to the construction of the McSherry shoe drill. What circulars or printed matter were these that were sent to them?

A. The same that the McSherry Manufacturing Company had supplied us with, together with a few photographic cuts that we sent them from here.

Q. 136. In the letters that I quoted Monday, reference was made to a circular, the galley proof of which was attached to one of the letters and is quoted; please tell us whether or not the printed matter was like that in this galley proof and in the circular which follows the galley proof, in wording.

A. The printed matter sent to Manitoba was the same that you have before you.

Q. 137. The same as that shown in this galley proof and in this circular attached to the letter of December 30, 1895?

A. Yes, sir.

The further taking of testimony in this matter was here adjourned until Thursday, August 31, 1905, at 9:30 A. M.

Thursday, August 31, 1905, 9:30 o'clock A. M. Met pursuant to adjournment. Present, same as before.

Thomas H. Martin is recalled, and further deposed and testified as follows, in answer to questions by Mr. Banning.

Q. 138. I find here a letter from Mr. Anderson to the Minnesota Moline Plow Company, dated October 9, 1895, which reads as follows:

"MINNESOTA MOLINE PLOW CO.,
"Minneapolis, Minn.
"*Dear Sir*: I am in receipt of yours of the 7th, and notice what you say in regard to drills, and I certainly trust that you will not have the same drill for our trade here as you did last year, as it would be up-hill work disposing of it. They want a lighter drill, with a steel frame, and also one less expensive. I say this advisedly, for the benefit of the company, because both the VanBrunt & Davis and the VanBrunt & Wilkins are coming in strongly, and their goods are of a lighter build, with

a steel frame, and have given very good satisfaction in this province, and they were also sold at a lower figure than what ours were last year.

"You can readily see that it is important for the trade, to keep everything down to as low a basis as possible, and, as I have said in a former letter, a good many orders hinge on this point.

"Please keep me posted on both wagons and drills, as to what the prices will be next year. Plows I presume will be the same.

"Yours truly,

"H. F. ANDERSON."

Do you recall receiving that letter from Mr. Anderson?

A. Yes, sir.

Q. 139. In one of the letters that I quoted yesterday you made a suggestion about changing the form of the lever so as to more nearly correspond with the lever on the Monitor and Dowagiac drills; I will ask you to state whether or not the change in the lever that you suggested made any difference in the character of the spring pressure device that was being used on the McSherry drills.

A. No, sir, I can't see that it would. All parts being rigid and well made, it would hardly affect it; not necessarily.

Q. 140. I meant to ask you whether or not the change in the lever would cause the use of a different kind of a spring pressure device than had been theretofore used; please state the fact as to that.

A. I don't think it would.

Q. 141. Do you remember a dealer up at Graceville, Minn., named O'Neill?

A. I do.

Q. 142. Do you remember about the return of McSherry shoe drills he had bought?

A. Yes, sir.

Q. 143. Please state what was the matter with those drills, if you recollect.

A. The difficulty was in the shoe. It would not polish sufficiently to suit the soil that they had in that country.

Q. 144. Were you up at Graceville at any time when there was any test of shoe drills?

A. Yes, sir.

Q. 145. Please tell us about that, and what kind of drills were tested.

A. I can't tell you just the year, but it was about either 1898 or 1899. Mr. O'Neill had bought a car-load of drills for that trade, and he wired us that he was having serious trouble on account of the shoe, and for me to come and investigate the matter. I wired Mr. Eichelberger, at the factory, to come to Minneapolis at once. He and I went to Graceville to see what the trouble was. We found the trouble entirely with the shoe. It was not polished quite as well—it was not polished as well as that of the Dowagiac, which was our principal competitor in that region; the only competitor in that region. The shoes were gathering trash to that extent that we had to stop the drill every rod and relieve it of its congested condition, while the drills of the Dowagiac, which were working in the same neighborhood, were working nicely, with no trouble to speak of. The result was that we had to take back the car of drills, on account of the difficulty with the shoe, and make disposition of them in other ways. That is about the amount of the trouble we had at Graceville.

Q. 146. What feature of the Dowagiac drill, in your opinion, gave it its great popularity, and contributed most to the successful sale or marketing of that drill?

A. I think it was in their fine shoe; the construction of the shoe; its being so finely polished, being thin, and in some cases much harder than that of others. It made it lighter draft, and less liable to catch trash.

Cross-Examination by Mr. Chappell.

X-Q. 1. Please state fully your relations to the implement business, beginning when you first began giving any attention whatsoever to that business, stating what you did and your various employments, at what places, etc.

A. My first experience in the implement business was in 1883, at Kansas City, Missouri. I was then a traveling salesman for the Burlington Plow Company, of Burlington, Ia.; I was with them two years, and was then employed by the Peru Plow & Wheel Company, of Peru, Illinois, as traveling salesman in the territory of Kansas City. I sold goods for them in Kansas for two years, and then became acting secretary of the company, headquarters at Peru, Illinois. I remained with them until 1889, and made a contract with the Moline Plow Company, Moline, Ill., as traveling salesman for northern Illinois. I occupied that position until the 20th of September, 1895, and then made a contract with them to take charge of the business at Minneapolis, as manager for the northwest. I occupied that position until the 1st of October, 1901.

X-Q. 2. When did you first learn of the Dowagiac shoe drill having parallel spring rods for applying pressure to the shoes?

A. I first learned of it after I came up to Minneapolis.

X-Q. 3. State the circumstances under which that grain drill was first brought to your attention.

A. Which, the Dowagiac?

X-Q. 4. Yes.

A. I think that my travelers first spoke of it. When I first came to Minneapolis I made a visit to the different houses to see what kind of grain drills, what sizes, what construction, were being used mostly in this territory. I then noticed it. Didn't examine it particularly from all others that I looked over.

X-Q. 5. What was the exact date that you came to Minneapolis to take charge of the Minnesota Moline Plow Company as manager?

A. The first of October, 1895; the first day of October.

X-Q. 6. You had known some time prior to that that you was to come here at that date, had you not?

A. Only two days' notice. Only two days prior to that date.

X-Q. 7. Who was the manager prior to you?

A. Daniel Ougheltree.

X-Q. 8. Did you ever meet Mr. Elam Denny?

A. I don't recall that I did.

X-Q. 9. You knew of him as connected with the McSherry Manufacturing Company, did you not, as a traveling man for them?

A. I didn't know of him then. They didn't have any travelers in this northwest that I know of.

X-Q. 10. Then you had no negotiations with Mr. Denny in the matter of the sale of the McSherry drill to your concern?

A. Not any, that is, as a traveling salesman. I don't know Mr. Denny. Didn't know of his connection with the house. If he was any way connected with the house he didn't make it known to me.

X-Q. 11. With whom did you conduct your negotiations for the purchase of the McSherry drills?

A. With Eichelberger, the representative of the house.

X-Q. 12. When you came to Minneapolis and investigated the grain drill business, which grain drill did you find to be the most popular; which one did you hear the most talk about?

A. Well, there were two leading at that time. There were a number, but the leading ones at that time was the one that is made at Hopkins, the Monitor, the Dowagiac and the Kentucky, that is, at first, the first year. Subsequently others sprang into prominence. There was the Superior, the Tiger and two or three others. Fountain City for instance.

X-Q. 13. Each of these were shoe drills?

A. They were all shoe drills then, at that date.

X-Q. 14. To what extent were hoe drills sold in this territory, I mean Minnesota and the Dakotas?

A. To a limited extent.

X-Q. 15. How limited?

A. To a few points, to small farmers in southern Minnesota and western Wisconsin, and in southeastern Minnesota, some places. The demand was limited.

X-Q. 16. Other parts of the territory the hoe drill was not in demand at all, as I understand it?

A. No, sir.

X-Q. 17. Did you encounter the Havana press drill very much in your territory?

A. There was quite a number of them used.

X-Q. 18. Were they sold to any extent after you came to Minneapolis?

A. They were sold in 1896 and 1897, quite a number of them. After that they seemed to drop out of the trade.

X-Q. 19. In what parts of the territory were the Havana press drills sold during the years 1896 and 7?

A. They were sold largely in North Dakota; some portions of South Dakota where the soil was very light and loose; liable to blow away in a heavy wind.

X-Q. 20. The Monitor drill was always regarded as a very cheap drill, was it not?

A. I didn't consider it so. I don't think it was so considered in the trade.

X-Q. 21. The Monitor shoe drill are you referring to?

A. Yes, sir.

X-Q. 22. The Monitor shoe drill was a patented drill, was it not?

A. Why, I believe so. I don't know much about it. I couldn't say positively as to that part of it.

X-Q. 23. You identified yesterday a letter of October 18, 1895, from Mr. Blenkhorn to the Minnesota Moline Plow Company?

A. Yes, sir.

X-Q. 24. And he in that letter says, "Then for our Manitoba trade such a drill as is made by the Sucker State Drill Company, coil springs, steel frame, would take well there, as it costs considerably less and could be sold at a lower price in order to compete with the Monitor drill." In the preceding paragraph occurs the remark, "For up North we need a steel frame drill as near like the Dowagiac as possible." Doesn't this, as a matter of fact, indicate that your traveler, Mr. Blenkhorn, at least, regarded the Monitor drill as a very cheap drill, and was it not a fact that the Monitor shoe drill was regarded as a cheap drill?

A. It was not considered so generally in the trade to my knowledge. Subsequent years the prices held up with others, as far as I recollect.

X-Q. 25. You have no positive knowledge as to exactly the prices they sold at, have you?

A. I have not, no. I would have heard of their low prices in competition with the trade, if there had been any such thing.

X-Q. 26. Well, this letter of October 18, 1895, would indicate that Mr. Blenkhorn, at least, regarded them as low priced, wouldn't it?

A. That is what it would indicate, yes, but I don't think that he made any specific talk along that line.

X-Q. 27. I call your attention to a letter of October 15, 1895, addressed to the Moline Plow Company, Moline, Illinois, signed with a stamp Minnesota Moline Plow Company, and indicated as dictated by T. H. Martin, manager, and ask you if the memorandum at the bottom of that letter is in your handwriting (showing witness paper).

A. Yes, sir, it is.

X-Q. 28. This letter reads as follows:

> *"Gentlemen:* We have heard nothing yet from the Sucker State Drill Company with reference to an interview that may have been had with anyone from the Moline office during the St. Louis fair. We are anxious to know what drill we are to have for the coming year.
>
> "As we have previously written you, we do not think the National Drill is what we want; we speak advisedly on this point, as we have expressions from our travelers and dealers as well to this effect. We have quite a number of cases now hanging back where we cannot make settlements on account of faulty and bad working of this drill.
>
> "We have written the Sucker State Drill Company to-day to send us a sample of their steel frame 16 shoe drill, also asking them for prices, catalogue, etc., and hope we may receive it soon."

The memorandum at the bottom identified by the witness is,

"The Sucker State is so like the Dowagiac drill so popular here I think it will suit us."

Had you ever at the date of writing this letter seen the Sucker State drill?

A. I hadn't examined it until later on.

X-Q. 29. What other drills, if any, do you remember having negotiated for?

A. I was negotiating for the Sucker State, had offers of the National drill, the one we had the year previous, and the McSherry. Later on had opportunities of making contracts with one or two other houses. One was the Dempster Company, at Beatrice, Nebraska, I believe.

X-Q. 30. When was that?

A. That was in 1897.

X-Q. 31. Was their drill ever sold in this territory?

A. Sold in the northwest.

X-Q. 32. What was the name of that drill?

A. It was the Dempster. It was a press drill. Also was offered the Selby-Starr drill at Peoria, Illinois, later on.

X-Q. 33. Did you not also make overtures to Brennan & Company of the Southwestern Agricultural Works, to buy the Kentucky drill?

A. No, sir.

X-Q. 34. I call your attention to a letter dated at Minneapolis, October 28th, 1895, addressed to the Moline Plow Company, signed by stamp Minnesota Moline Plow Company, indicated as dictated by T. H. Martin, manager, and ask you if that is not a letter which you dictated to the Moline Plow Company. (Showing witness paper.)

A. Yes, sir. That was shortly after I came here, and simply an inquiry.

X-Q. 35. I call your attention to a copy of a letter thereto attached

and ask you if that was not the copy of a letter which you state you enclose in this letter of October 28th.

A. As near as I can recollect, it is.

X-Q. 36. The letter identified by the witness reads as follows: At the head is "F. A. Sprague" in parenthesis. Enclosure indicated.

"*Gentlemen:* For your information I enclose herewith a copy of a letter received this day from Brennan & Co., Louisville, Kentucky. This is in answer to a letter we wrote them a few days ago."

The copy of letter enclosed is as follows:

"LOUISVILLE, KY., Oct. 26, 1895.

"Minnesota Moline Plow Co.,

"Minneapolis, Minn.

(Copy)

"*Gentlemen:* We have yours of October 24. We have contracted for the coming season with the Deere & Webber Company for the territory, and therefore will not be at liberty to name you prices.

"We thank you for the inquiry.

"Yours very truly,

"BRENNAN & Co.

"S. W. Agl. Works."

Do not these letters refresh your recollection so that you can now state that you had correspondence with Brennan & Co. relative to the purchase from them of Kentucky shoe drills?

A. That had escaped my observation, but that brings to my mind that I had correspondence with them to see about their prices and so on. I may have had correspondence with others that has escaped my memory. I didn't enter into any negotiations with others, nor ask for samples of any other drills than the McSherry Manufacturing Company and the Sucker State Drill Company. Was offered new samples of the National drill, in which they claimed that they would remedy every point of objection of the previous year.

X-Q. 37. The Kentucky shoe drill was a drill of good reputation, was it not?

A. It was.

X-Q. 38. Had been introduced into this northwestern territory prior to this time, had it not?

A. I could not say, as I was not here, but I think it had.

X-Q. 39. To still further refresh your recollection on that matter, I call your attention to a letter dated Minneapolis, Minn., October 24, 1895, addressed to the Moline Plow Co., signed Minnesota Moline Plow Company with a stamp, and indicated as dictated by T. H. Martin, Manager, and ask you if that letter does not refresh your recollection so that you will be able to state that the Kentucky drill was under consideration as a drill which you thought well of and would have been glad to negotiate for had it been possible to do so. (Showing witness paper.)

A. That was written on the line of general information to see what they had, and to see what prices they could make, and to see also whether they were in position to make a deal in case we wanted it.

MR. CHAPPELL: In the letters which have been produced here I have not been able to find the letter of the 23rd referred to in this letter which has just been identified, this letter just identified reading as follows:

"Answering yours of the 23rd instant as to whether we had made inquiry pertaining to Brennan & Co., Louisville, Ky., on their drills, will say we have not, nor have we seen it. We will, however, take the matter up, and are in correspondence with them. We have an idea we can get the Sucker State drill, as they are ready to send us a sample, as indicated by the letter we quoted to you to-day."

X-Q. 40. Do you know whether this letter from the Moline Plow Company to the Minnesota Moline Plow Company is in existence?

A. I don't know. I don't know that. As near as I recollect, that letter is this; we were two or three months late starting in our trade in the northwest, in the canvass; other canvassers had been out in September and October, and we were urging the home company to take up the matter of correspondence with such drill companies as they knew of, and I would do the same from this end

of the line; and I think that is an inquiry from Mr. Sprague as to the result of my correspondence with the different companies. That is as near as I can recollect. As to the sum and substance of the letter I couldn't state.

MR. BANNING: Defendant's counsel states that if desired by complainant's counsel he will ask the office of the Minnesota Moline Plow Company to look up the letter of October 23 from the Moline Plow Company, referred to in the question of counsel above, and in the letter quoted.

X-Q. 41. You gave testimony in the matter of the suit by the Dowagiac Manufacturing Company against the McSherry Manufacturing Company and others, pending in the United States Circuit Court for the Southern District of Ohio, as follows, among other things, did you not?

"Q. 21. How would you classify these drills in the order of the number of their yearly sales; that is to say, which drill would sell most, which next, and so on?

"A. Well, I have no way of knowing exactly the number sold by other companies. I think that the Dowagiac and the Kentucky led in the number of sales up to 1896 or 1897. From 1897 on to 1900 I think that the Kentucky Drill Co. and the Monitor sold each as many drills as the Dowagiac. The Van Brunt sold about as many."

Would you care to in any way modify that statement?

A. I might modify it to this extent, for the years 1896 and 1897 substitute the Monitor for the Kentucky. Otherwise let it stay as it is, up to that date—what dates does that end with, 1896 and 1897?

X-Q. 42. From 1897 to 1900.

A. Yes, I would change it a little. From 1898 to 1900 the Van Brunt came into prominence; also the Superior would figure about with the others. Almost, not quite.

X-Q. 43. Were Superior shoe drills sold very much in this territory when you came up here in October, 1895?

A. Not a great many of them. Not as much as some of the others until later on. From 1897 to 1898, 1899 and 1900 the Kentucky

figured conspicuously in the trade, and also the Tiger came in, and the Fountain City took quite a trade.

X-Q. 44. Did the Tiger cut much figure after you came to the territory in October, 1895?

A. Not until 1897 and 1898.

X-Q. 45. What kind of drills did they sell then?

A. They sold a shoe drill.

X-Q. 46. I call your attention to some statements appearing in your cross-examination in the McSherry case, to which I have referred, as follows:

> "X-Q. 29. Considering the grades of shoe drills about which you have testified, how did the Dowagiac rank with the others?
>
> "A. Why, it ranked very favorably. Very good.
>
> "X-Q. 30. As a high grade machine did it rank as high as the McSherry or higher, or was the McSherry considered a low grade machine in comparison?
>
> "A. No, the McSherry was not considered a low grade machine in comparison. The work of the McSherry in the field was about as satisfactory as the others.
>
> "X-Q. 31. How did the machines compare in finish and workmanship; which was the better, the Dowagiac or the McSherry?
>
> "A. I consider the McSherry equally as good as the Dowagiac in construction and finish, and superior in painting."

Is that a correct statement, or would you wish to modify that?

A. I would not care to modify that further than this; barring the one or two cases where our shoes gave us a little trouble in comparison with others.

X-Q. 47. When did you first become familiar with grain drills generally?

A. In traveling through as a commercial traveler, as a traveling salesman, I noticed them on the floors of different dealers.

X-Q. 48. Did you ever travel in the northwest; that is, Minnesota and the Dakotas?

A. No, sir.

X-Q. 49. And parts of Wisconsin?

A. No, sir. I traveled in southern Wisconsin. I will also state that I had gained some knowledge of drills in visiting different factories for the purpose of selling drill wheels; taking measurements of the sizes and the requirements of wheels on grain drills; but my main knowledge of the drill trade was gained from my experience with the northwestern trade.

X-Q. 50. I call your attention to a blue pencil memoranda appearing on a letter of October 19, 1895, addressed to the Moline Plow Company, signed by the Minnesota Moline Plow Company, and indicated as dictated by T. H. Martin, Manager, and ask you, if you know, in whose handwriting that memoranda is (showing witness paper)?

A. I think that is by F. A. Sprague. The letter was addressed to him, and the memoranda is by him, as near as I know.

MR. CHAPPELL: The letter referred to reads as follows:

> "We are getting our specifications for goods that will be needed here next year as fast as we can. We are detained in this matter to some extent by difficulties we are encountering in getting our traveling force in line, and other work in connection with the new building. Will send them to you in the near future. We are in correspondence with parties who make such of the merchandise goods as you do not contract for at Moline. We have written each of these parties to send their representative here as soon as it is practicable. We hope to have all these matters fixed up and ready for the fray before long.
>
> "We are undecided as yet as to what drill we will have for our trade. We have ordered samples from the Sucker State Drill Co.; also from the McSherry, but we can not get a sample from the McSherry Drill Co. before December, and we have not heard from the Sucker State Drill Co. in answer to our inquiries.
>
> "Yours truly,
> "MINNESOTA MOLINE PLOW CO."

The pencil memorandum in blue pencil being "Have you tried Brennan & Co., Louisville, Kentucky?"

X-Q. 51. (Showing witness papers.) I call your attention to the galley proof which was copied into the record last Monday, and also to the circular which was referred to by you at that time, and in which you say there are some thirty-nine words relating to the spring pressure device, and ask you to please quote the thirty-nine words into the record at this point.

MR. BANNING: Counsel for defendants calls the attention of complainant's counsel to the fact that the inquiry of the witness was as to the words in the circular which were descriptive of the construction of the spring pressure device, and in view of this suggests that the question now put to the witness is a little broader than the question to which he refers.

X-Q. 52. I wish the particular language to which you referred in your former testimony to be quoted. I did not know that the inquiry was restricted in any way.

A. I did not count the number of words in this clause or sentence, but I stated they were in sum and substance, or my intention was to state that they contained in sum and substance, this matter pertaining to the springs and spring pressure.

X-Q. 53. Will you now read the part to which you referred?

A. "The springs are made long and are of the best oiled tempered spring steel, allowing them to hold pressure when the runners drop into depressions, and also allow the runners or shoes to raise up in passing over obstructions." I find the same words in the circular, descriptive of the drill; the circular with the cut.

X-Q. 54. This circular that was referred to is the circular that was sent out advertising the McSherry shoe drills during that first season, is it not?

A. Yes, sir.

X-Q. 55. Were there any other circulars sent out?

A. They may have changed them a little, enlarged them a little, but didn't embody any new features.

X-Q. 56. Are you able to produce the circulars and advertising matter that was distributed by the Minnesota Moline Plow Com-

pany, or copies of the same, that were distributed from time to time in advertising the McSherry shoe drill?

A. I am not. It was along the line of these. Little if any deviation from it.

X-Q. 57. Towards the head of the galley proof I find the expression, in bold faced type,

> "Spring pressure; the pressure is applied by means of a lever that is in convenient reach of the operator, and while the pressure is applied on all of the shoes at one time, they each have an independent movement, up and down, to pass over obstructions or drop into depressions, so that a perfect job of seeding can be done with this drill in any ground that is adapted to the use of a shoe or runner drill.
>
> "By slipping the casting that is at the forward end of the spring forward or back the pressure can be increased or diminished at the will of the operator."

In making your answer regarding the descriptive matter of the spring device, you overlooked this, did you not?

A. No, sir.

X-Q. 58. This language to which I have referred also appears in the circular, with the bold faced type to point it out, does it not? (Showing witness paper.)

A. It is the same.

X-Q. 59. How many different shoe drills that you remember of were in the market at this time; that is, when you began sending out these circulars?

A. You mean in the trade here?

X-Q. 60. In the trade here.

A. Well, there was the Monitor—

X-Q. 61. I would not care to have you name all of them, but give an idea of how many.

A. Oh, there were six or eight prominent before the trade.

X-Q. 62. You think the feed on the McSherry was as good as on any other?

A. Yes, sir.

X-Q. 63. What was there about the feed on the McSherry that made it a good feed?

A. Well, the cups were finely finished, the joints were close, so as to sow flax accurately without spilling; also to sow wheat, barley and oats very satisfactorily. I knew those facts before I came to Minneapolis, so far as concerned that drill.

X-Q. 64. It was manufactured in a superior manner, then; is that it?

A. The cups, the feed cups, the distribution of the feed, of the seed, is what made it sell, to my knowledge, in other states.

X-Q. 65. What other drills, if any, were making use of a similar feed?

A. I don't know as to the number, the exact number. Some of them were using the same, but the cups on some of the others were not finished as finely as those of the McSherry. The feed cups.

X-Q. 66. But it was a construction that appeared on a good many different drills, this feed cup construction, wasn't it?

A. Yes. It was known as the chain cup feed; chain drive and cup feed.

X-Q. 67. Was it a chain drive in the year 1895?

A. It was I believe. We had some with a gear drive in the early part of the trade, but I don't recollect what number.

X-Q. 68. This cup feed was in use on hoe drills in the territory with which you were famliar before you came to the northwest, was it not?

A. Yes, sir.

X-Q. 69. Which of the different grain drills made use of ground wheels having ratchet hubs, similar to those in mowing machines?

A. I could not answer that question knowingly.

X-Q. 70. That was a feature of the McSherry, was it not?

A. You mean the pawl in the hub?

X-Q. 71. Yes.

A. I could not state exactly how many.

X-Q. 72. It was in common use in various places, on grain drills, was it not, of different makes?

A. The pawl in the hub you mean?

X-Q. 73. Yes.

A. I think they all use it.

X-Q. 74. Any other grain drill manufacturers use cold rolled steel axles?

A. Yes, sir. Some of them used inferior grades of steel; cut easily; wasn't properly hardened.

X-Q. 75. The McSherry Company used good judgment in selecting its material for the axles, did it?

A. It did.

X-Q. 76. Was it a good selling feature, "the hopper bottom having heavy sheet iron plates that are arched," between the feed openings?

A. It was no disadvantage. It was. It was a part of the feed.

X-Q. 77. That was on most other drills, was it not?

A. It was on all double feeds. Some of them were careless in making the fittings so as to avoid the trouble of spilling flax when the drill was in operation.

X-Q. 78. Was the matter of high wheels with wide tires anything special as to the McSherry drill, or wasn't that common on different makes?

A Not quite so high. Some of them used 2½ inch tire, which would allow the drill to sink too deeply into the earth where the soil was soft.

X-Q. 79. The matter of land measure didn't have anything to do with the sale of the drill, did it?

A. Oh, it added in a measure. It didn't help in the working process any. It was a satisfaction to the farmer to know how much land he was covering.

X-Q. 80. Did the McSherry Company have any monopoly on the "low down hitch" that relieved the pressure of the tongue on the horses' necks?

A. I don't know that they did. I can't say that they did.

X-Q. 81. That was on the Dowagiac drill wasn't it?

A. So far as I know.

X-Q. 82. It was on most of the other makes, wasn't it?

A. It is now. Was later on.

X-Q. 83. The grass seeder is not really considered a necessary part of a drill, is it?

A. Not in this country.

X-Q. 84. The construction of the shoes was merely a matter of selecting the best material for the purpose, wasn't it?

A. No, sir. It was in the form and in the finish.

X-Q. 85. What was the finish?

A. It was ground smoothly and then polished.

X-Q. 86. There wasn't anything that you know of that would prevent anyone making a shoe that way, if they saw fit to, was there?

A. No, I don't know of anything.

X-Q. 87. They could make it of steel, or cast iron, or any other material they saw fit, couldn't they?

A. Not to be successful. It had to be made of steel.

X-Q. 88. Chilled cast iron shoes would not do; is that right?

A. They would do in some soils, but not in this Northwestern soil which is so loose.

X-Q. 89. There wasn't any drill manufacturer that you know of that had a monopoly on the steel which was adapted to make shoes, was there?

A. Not any that I know of.

X-Q. 90. What did the length of the shoe have to do with its proper working in trashy ground?

A. It had considerable to do.

X-Q. 91. Please explain fully about that.

A. The long shoe could not be hitched to the draw-bars without catching trash, with the frame of an ordinary length; ordinary width rather. The shorter the shoe the better, so it would be long enough to make the incision in the ground. This was necessary to avoid heavy draft. A long shoe would increase the draft very materially.

X-Q. 92. Will you please give instance of the use of grain drills with long shoes that were not successful, or were not successful in the highest degree?

A. I have not seen any at work. I only have it from hearsay. That was one trouble with the Columbia, made by the National Drill Company.

X-Q. 93. What was the Minneapolis shoe drill?

A. The Minneapolis shoe drill was made I think by the National Drill Company.

X-Q. 94. That was the name that was given to the National drill that was handled by—

A. By the Moline Plow Company.

X-Q. 95. Was not the fact that the Havana press drill had a long shoe which entered into the ground for nearly its entire length, one of the reasons for its going largely out of use?

A. I couldn't tell you why they discontinued the drill. I think they had a long shoe and a high pressure, making considerable draft, besides that. It was known as a heavy runner; known as a machine of heavy draft, rather.

X-Q. 96. Wasn't the thing that made the shoes operate successfully the matter of the angle at which the shoe entered the ground, rather than its length?

A. I think not.

X-Q. 97. If a shoe was tipped well up on its heel, there wouldn't be very much of it go into the ground, no matter how long it was, would there?

A. You couldn't tip it up on its heel, and put the ordinary draw-bars to it, without raising the front of the machine too high.

X-Q. 98. But if the draw-bars were shortened when the shoe was made longer, the shoe could be tipped up on its heel?

A. It might be, but I scarcely think it would be practicable.

X-Q. 99. If it was tipped up on its heel under those circumstances, no more of it would enter the ground than there would of a shorter shoe, would there?

A. No, I presume not, but it would be more expensive to build.

X-Q. 100. There would be steel above the ground where it was not needed for wearing purposes, is that right?

A. The draw-bars cost less money than shoes. They can lengthen the draw-bars at less expense than to carry a long shoe.

X-Q. 101. The fact that the draw-bars are connected to a frame that is transported by ground or carrying wheels at each end, enables this arrangement of shoes so that it can be tipped up on its heel, does it not?

A. They can change it somewhat.

X-Q. 102. I suppose also a necessary part of the drill is the gum tubes that carry the grain out from the feed to the shoe?

A. Yes.

X-Q. 103. Isn't that right?

A. Yes, sir.

X-Q. 104. And that a drill will vary in quality somewhat as the gum tubes is varied; is that right?

A. Why, the work required of the gum tube is simply to convey the grain from the drill to the heel of the shoe, and anything that will do that work would be all that would be necessary, whether it was gum or anything else. Gum is more flexible I presume is why it was used.

X-Q. 105. I suppose also the parts of a frame, or the different parts do best if secured together with bolts where that is possible, don't they, rather than by making use of nails?

A. Yes, sir.

X-Q. 106. You would not consider a grain drill to be a good, salable grain drill in which the parts were joined together principally by means of nails, would you?

A. Not altogether. There is some parts that nails would answer the purpose.

X-Q. 107. But ordinarily screws and bolts are made use of for joining the parts together, aren't they?

A. In the frame?

X-Q. 108. Yes.

A. Yes, sir.

X-Q. 109. And in the other parts too?

A. Well, in the feed box sometimes nails are used; sometimes screws. Screws are preferable.

X-Q. 110. It would be a better grain drill if they used screws, wouldn't it?

A. Yes, sir.

X-Q. 111. Are you able to produce sample contracts, or blanks of contracts, showing the character of the guaranty of the Minnesota Moline Plow Company on its goods that it sold to the trade in this northwest territory?

A. I am not. They are on file in the office of the Minnesota Moline Plow Company.

MR. CHAPPELL: Complainant's counsel asks defendants' counsel if he has any objection to producing contracts with the full guaranty therein, for use in evidence.

MR. BANNING: The defendants' counsel states that he has no objection whatever to the production of the sample contracts inquired about.

MR. CHAPPELL: If you will kindly produce one I think it may be of interest in the case.

X-Q. 112. It was the practice of the Minnesota Moline Plow Company to stand back of its goods, was it not?

A. It was.

X-Q. 113. Whatever they chose to guarantee there was very little question about the matter in the trade, was there?

A. Very little.

X-Q. 114. Their financial responsibility was abundant to back up anything they said, I presume?

A. It was.

X-Q. 115. Will you state what was the paid-up capital stock of the Minnesota Moline Plow Company during these years 1895 to 1900, as near as you remember? This branch office here, and this is one of many of the branches, this was $125,000.

X-Q. 116. And back of that was the parent institution at Moline, Illinois, I suppose, which was a much larger institution?

A. Yes, sir.

X-Q. 117. The troubles that you had with the National drill were not with the spring pressure, were they?

A. No. The trouble was largely with the frame.

X-Q. 118. The frame was not made strong enough; is that right?

A. The frame was heavy enough, but it was not balanced on the axle properly. It was not trussed properly under the axle; under the feed box. This was one reason why I was so particular in having the frame of the build that we adopted built so as to avoid any sagging in the field. If the frame of a drill sags, the different parts of the machinery can not discharge their functions.

X-Q. 119. How many McSherry hoe drills did you ever sell in this territory, and what parts of the territory did you sell them in?

A. I could not state the number. Approximately, I would say 75 or 80. They were sold mostly in southern Minnesota; in the timber districts.

X-Q. 120. What year did the Minnesota Moline Plow Company begin handling hoe drills, and for how long did they continue?

A. They commenced with them, as near as I recollect, in 1896, and discontinued selling them perhaps in 1898.

X-Q. 121. Why did they discontinue selling the hoe drills?

A. The demand seemed to fall off.

X-Q. 122. The McSherry drill did not have an all-steel construction in the first instance as you sold it, did it?

A. No, sir.

X-Q. 123. Or an all-metal construction, as named in the circular?

A. The first shipment of drills was all steel in the frame. Of course the hopper and seed boxes were not.

X-Q. 124. Later they introduced quite a large wood piece into the frame, did they not?

A. No. I stand corrected. I will answer the question as you originally stated it. They did not have an all-steel frame for this trade. We got the first drills with the wood piece in. I objected to it at first, fearing that the wood would not be strong enough, but subsequently I found it to be not an objection but rather an ad-

vantage, as we had heard of cases where iron agle bars would bend in the field and disarrange the construction of the frame.

X-Q. 125. It wasn't a necessity then in the marketing of these drills that they be strictly an all-metal frame, was it?

A. Not after they were introduced; after the dealers found that it was satisfactory here, they were willing to adopt it and take it as it was.

X-Q. 126. All they wanted was a frame that was strong enough; that was all they cared about?

A. Yes.

X-Q. 127. Is that right?

A. Yes, sir. They wanted a frame that was strong enough, and neat in appearance, and not too heavy; properly adjusted, and the drill properly set on the frame.

X-Q. 128. There were no patented features about the McSherry drill, were there, that you know of?

A. Not that I really know of. If I recollect right some of the parts were marked "Patented." The feed cups had a patent mark on them I think, or the frame of the cup. The ratchets bore a patent. The pawl in the hub. The hub of the wheel I think had a patent mark on it.

X-Q. 129. Are you aware that Mr. Eichelberger in the McSherry case stated that there were no patented features about the McSherry shoe drill?

A. He told me there was.

X-Q. 130. Will you please state fully what the guaranty as given by the Minnesota Moline Plow Company on goods is, and in particular on the grain drill which it has sold of the McSherry shoe drill type?

A. There was no special guaranty given with grain drills more than on the other line of goods, but it was understood with the dealers when the contract was made that the drill was to be of good material, well made, and was to give satisfaction, which we lived up to in every case, as in the case of O'Neill at Graceville, which

was one. We had a few other cases where there was a little trouble, but never to amount to anything. We always made good when the fault was in the construction of the drill. This we understood to be in conformity with the understanding and agreement when we made the contract.

X-Q. 131. Was the Minnesota Moline Plow Company organized as a Canadian corporation, ever?

A. I think not. I couldn't tell you.

X-Q. 132. Not that you ever knew of?

A. Not that I have any knowledge of.

X-Q. 133. The McSherry shoe drills that were sold up in the Canadian Northwest, were not sold by any Canadian concern known as the Minnesota Moline Plow Company, were they?

A. They were sold by the Minnesota Moline Plow Company, the Canadian branch.

X-Q. 134. Where was that Canadian branch established?

A. At Winnipeg. It was a branch of this house here.

X-Q. 135. Did the branch Minnesota Moline Plow Company at Winnipeg deal directly with the McSherry Manufacturing Company?

A. No. The trade was with the branch house here.

X-Q. 136. Did the McSherry Manufacturing Company have a Canadian manufactory from which they supplied the goods in Canada?

A. I don't think so.

X-Q. 137. None of the goods were shipped from a Canadian plant of the McSherry Manufacturing Company to the Minnesota Moline Plow Company branch at Winnipeg, were they?

A. No, sir. We shipped all the drills that the Winnipeg house sold from this main house here.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. In shipping drills to Manitoba from your house here in Minneapolis, were they shipped to your house at Winnipeg, or

directly to the dealers to whom your Winnepeg house had made sales?

A. They were shipped to the Winnipeg house, and Mr. Anderson sent them out with other goods to the dealers whose contracts he had written under our instructions.

R-D. Q. 2. Those shipments were made after he had reported sales to you, were they?

A. They were.

R-D. Q. 3. And those sales as I understand you were made up there in Manitoba?

A. They were.

R-D. Q. 4. I asked you something about the experience that O'Neil had at Graceville, and you spoke about having Mr. Eichelberger go up there; was he present with you at Graceville?

A. He was.

R-D. Q. 5. What did he do, if anything?

A. He didn't do much of anything but sit on the fence.

R-D. Q. 6. Were Dowagiac drills being tested in the field there?

A. They were. The field adjoining ours, and in the same field, at one side of it. There were two or three of them in the neighborhood that we saw that day in the same kind of soil.

R-D. Q. 7. Did Eichelberger try the McSherry drills in those same fields?

A. He followed along for a short distance and watched the operator try them.

R-D. Q. 8. What was the matter with those drills, those McSherry drills in those fields?

A. The shoes were not scoured.

R-D. Q. 9. How was it with the Dowagiac shoes?

A. The Dowagiac shoes seemed to be polished better, better scoured and polished, and went through with but little difficulty?

R-D. Q. 10. You were asked about shoe drills that were on sale up here in the northwest when you began to sell McSherry drills, but were not asked as to the names of those drills I believe; please

state the names of other shoe drills that were on sale when you began selling the McSherry and sending out your circulars?

A. Well, there was the Monitor, the Dowagiac, a few of the Sucker State, the Van Brunt, the Superior, and one made at Horicon, Wisconsin.

R-D. Q. 11. That was the Van Brunt?

A. I mean at Beaver Dam.

MR. CHAPPELL: The Tiger?

A. The Tiger.

R-D. Q. 12. Of these drills, I believe the Monitor, the Sucker State, the Van Brunt, the Superior, and the Tiger were provided with coil spring pressure for their shoes, were they not?

A. I believe they were. I think one or two of them have flat springs. I could not be positive as to the particular construction of that part of them.

R-D. Q. 13. After you began handling the McSherry shoe drills was there any change made in the feed, if you remember?

A. In the feed? I think we used at first some of the gear drive with a small disk wheel, but the most of the drills that we sold were of the chain drive and cup feed, after we got into the trade fairly.

R-D. Q. 14. Do you remember about the double run feed, where it fed the seed out of both sides?

A. That was on a few of the first, but it was taken off after I discontinued service with the company.

R-D. Q. 15. On a few of the first drills, and then not on the drills until towards the last?

A. Until after I discontinued service with the company, after 1901.

R-D. Q. 16. Where various parts and features of a grain drill have been in common use generally in different makes of drills and have become popular with dealers and farmers, I will ask you what the fact may be as to whether or not the more such popular features and parts are used in the construction of a drill, the more salable such drill will be?

A. Yes, sir, if the construction of those parts is as it should be. Some of the manufacturers get careless occasionally and try to economize by putting on less work on those important points. That would interfere with the popularity of some of the drills to a great extent.

R-D. Q. 17. Well, the use of parts that have become common and popular, if made right would increase the salability of a drill, would it not?

A. It would.

Re-Cross Examination by Mr. Chappell.

R-X Q. 138. You were not familiar with the sale of grain drills in this northwest territory until you came up here in October, 1895, were you?

A. I was not, only from hearsay.

R-X Q. 139. The features of the McSherry drill other than the shoe construction, had been familiar to you for a long time, had they not?

A. Yes, sir.

R-X Q 140. That is, they were familiar to you in connection with their hoe drills, were they not?

A. Yes, sir. Their feed was what I was more familiar with than anything else. The feed, and the construction of the wheel and the frame.

R-X Q. 141. Similar constructions had also been familiar to you for a long time on other makes of drills, had they not?

A. Yes. Not so much so as with the McSherry.

R-X Q. 142. That is, you were not so familiar with other constructions as you were with the McSherry; is that what you mean?

A. Yes, sir, from the fact that I had measured the McSherry drill when the factory was at Springfield, for the purpose of—

R-X Q. 143. You mean at Dayton?

A. At Dayton, yes, for the purpose of selling them wheels for their drills.

Re-Direct Examination by Mr. Banning.

R-D. Q. 18. At the time the contract was made with the McSherry Company for the sale of their shoe drills, what did you know of their standing and reputation as manufacturers of shoe drills, and agricultural machinery?

A. Their general reputation was good for all their lines of work. I didn't know as much about their shoe drills as required here, as I knew of the smaller drills used in other places, until after I came here.

R-D. Q. 19. They were an established and well known firm, were they?

A. Yes, sir.

The reading over and signing of this deposition by the witness was waived.

MR. BANNING: Defendants' counsel inquires of complainants' counsel if the shoe drills involved in this accounting are not also involved in the accounting between the complainant in this case and the McSherry Manufacturing Company, at Cincinnati, Ohio.

MR. CHAPPELL: Complainant's counsel remarks that a part of the shoe drills here in question were in consideration in an accounting between the above named complainant and the McSherry Manufacturing Company, in a suit pending in the United States Circuit Court in the Southern District of Ohio, but that those shoe grain drills which are known as "the new style" are not embraced in the accounting that is being conducted.

Complainant's counsel states that a second suit has been brought against the McSherry Manufacturing Company on account of the manufacture of this "new structure" as it has been denominated in this case. That complainant's case is closed so far as that is concerned, and now waiting the action on the part of the McSherry Manufacturing Company.

MR. BANNING: Defendants' counsel, before this session breaks up, would like to inquire of complainant's counsel whether he desires to make any further examination of the letters, press books and other files of the defendant company and whether or not he has any reason to be dissatisfied with the facilities that have been afforded him for examining their books, files, letters, etc., as, if so, he desires now to give him such other and additional opportunity as he may want.

MR. CHAPPELL: Complainant's counsel remarks that he considers that every courtesy has been extended to the complainant that might be asked in this behalf, and would remark that likely he would desire to refer to the letter books and correspondence which the defendant has had with dealers regarding shoe grain drills; but had intended to ask of defendants' counsel that Mr. Swayne might be allowed to run through the books for such purpose, if it seemed desirable on future developments.

MR. BANNING: Defendants' counsel states that when complainant's counsel desires, he will request the defendant to permit Mr. Swayne to make such examination as he wishes.

MR. CHAPPELL: Of course someone else besides Mr. Swayne may be asked to do it.

MR. BANNING: Mr. Swayne or other persons.

Monday, August 28th, 1905. 1:30 o'clock P. M. Met pursuant to adjournment. Present, as before.

NELS LUNDGREN, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Nels Lundgren; 48 years old.

Q. 2. Your residence?

A. Atwater, Minnesota.

Q. 3. Your occupation?

A. Implement dealer, hardware, furniture and undertaking.

Q. 4. How long have you been an implement dealer in Atwater, Minnesota?

A. Nine years.

Q. 5. What kind of implements do you deal in?

A. I deal in wagons, buggies, plows, drills, seeders and harrows.

Q. 6. Did you ever buy any shoe drills from the Minnesota Moline Plow Company?

A. Yes, sir.

Q. 7. About when was that?

A. 1899.

Q. 8. What kind of drills were they?

A. The McSherry.

Q. 9. What caused you to buy these McSherry drills from the Minnesota Moline Plow Company?

A. I handled the other line of their implements, and so I got them in the car. I bought them and they come in the car.

Q. 10. Do you remember the kind of spring pressure device that there was on these McSherry drills for pressing the shoes to the ground?

A. Yes, I remember now what kind of springs there was on them.

Q. 11. They were rod springs, were they?

A. Yes, round.

Q. 12. What particular features or characteristics of the drill caused you to buy them, if you can specify them?

A. They didn't state any kind or any special feature about them. When I bought the other line I bought them on that account. The other goods was good, and that is what I bought them for.

Q. 13. Did you buy them specially because they had the rod spring pressure device?

A. No, sir. I was not acquainted with that and took no notice of it.

Q. 14. Did you sell other kinds of shoe drills during the time that you had them?

A. I sold the Tiger at the same time, yes.

Q. 15. Do you remember what kind of spring pressure device it had?

A. It has a flat spring.

Q. 16. About how long?

A. Oh, about thirty inches, and about two inches wide.

Q. 17. Do you remember how many McSherry drills you bought of the Minnesota Moline Plow Company?

A. Two.

Q. 18. Did you sell them both?

A. Yes.

Q. 19. What representations or talk did you make to the farmers in order to sell them?

A. I didn't make any special talk or have any bother about them. I just simply sold them and that is all. Showed them the drills and they could take their choice between the McSherry or the Tiger.

Q. 20. Did you ever sell any other kind besides the McSherry and the Tiger?

A. Yes, but not at that time.

Q. 21. What kind is that?

A. Oh, I have sold the Dowagiac, and I sold the—I am mistaken now; I said the Tiger; that should be the Kentucky. Excuse me, that is a mistake. The Kentucky, and after that I sold the Tiger.

Q. 22. You sold the Kentucky at the same time you were selling the McSherry?

A. Yes.

Q. 23. And afterwards you sold the Tiger?

A. Yes. I am selling that now.

Cross-Examination by Mr. Chappell.

X-Q. 1. How long have you sold the Tiger shoe drill?

A. Three years.

X-Q. 2. Have you sold any Tiger disk drills?

A. Yes, sir.

X-Q. 3. Which do you sell the most of?

A. The disk.

X-Q. 4. How many Tiger shoe drills have you sold?

A. I couldn't state that. I couldn't say. I have got no record with me.

X-Q. 5. All been sold in the last three years that you sold of the Tigers?

A. Yes.

X-Q. 6. What kind of a spring did these Tigers have?

A. Two round springs—no, that is a coiled spring they have got.

MR. BANNING: A coil spring?

A. Yes.

X-Q. 7. When did you take the Tiger agency?

A. About three years ago.

X-Q. 8. Three years ago this spring?

A. Yes.

X-Q. 9. How many Tiger drills have you sold altogether?

A. I couldn't say that. I don't got any record of it.

X-Q. 10. Do you think you sold ten?

A. Oh, yes.

X-Q. 11. Sold twenty?

A. No, I don't think I have.

X-Q. 12. Sold fifteen?

A. Well, I couldn't state positively on that.

X-Q. 13. Just give it as near as you can.

A. I think about fourteen, but I wouldn't be positive on that.

X-Q. 14. How many of those were shoe drills?

A. Two.

X-Q. 15. Would you recognize an illustration of the spring pressure on these Tiger drills, do you think?

A. Yes, sir.

X-Q. 16. (Showing witness paper.) Look at the illustration which I show you and see it that illustrates the Tiger spring pressure device substantially, on the shoe drills, if you are able to tell.

A. Well, that is about—that spring looks to be the same, but I wouldn't be positive. It looks to be that same thing; that spring there; that coil.

MR. CHAPPELL: The witness referred to Figure 1 of the patent shown him, being patent No. 669,664, issued March 12, 1901, from the United States Patent Office to T. B. Rowell, for seed drill hoe.

X-Q. 17. Did you ever sell the Tiger drill that had a flat spring?

A. No, sir.

X-Q. 18. Did you ever sell any other Tiger drill than those to which you have referred?

A. No, sir.

X-Q. 19. Are you selling Tiger shoe drills now?

A. Yes, sir.

X-Q. 20. What other makes of shoe drills are you selling?

A. That is all the kind.

X-Q. 21. For how much less money than you were in the habit of paying did you succeed in buying McSherry shoe drills?

A. I couldn't state that.

X-Q. 22. Can you tell how much you paid for the McSherry?

A. No, I couldn't state that.

X-Q. 23. But you paid less money than you had paid for the others; is that right?

A. No, sir.

X-Q. 24. I understood you to say that you had succeeded in buying the McSherry drills quite cheap, was the reason you bought them.

A. No, sir. The rate of freight comes cheaper if you have it in a carload than in open freight. You see I bought the implements, and they come in the car, and come cheaper freight.

X-Q. 25. You gave the farmers a chance to choose between the McSherry and the Kentucky which you was handling at that time?

A. Yes, sir.

X-Q. 26. Is that right?

A. Yes, sir.

X-Q. 27. How many Dowagiac shoe drills did you ever handle?

A. I couldn't state that.

X-Q. 28. For how long a time did you handle them?

A. Two years.

X-Q. 29. When was that?

A. Five years ago. Five and four.

X-Q. 30. What shoe drills did you handle before you handled the Dowagiac?

A. I handled the Kentucky and the McSherry.

X-Q. 31. The Dowagiac was the last one you handled; is that it?

A. No, sir, that is the Tiger.

X-Q. 32. How did you come to buy the Dowagiac shoe drills?

A. Well, the agent come around there and he was urging me to take hold of the line. They didn't have any agency. That is why I bought them.

X-Q. 33. When did you first learn about the Dowagiac drill?

A. I didn't know nothing about them until the agent come around, and he give me a chance to sell them by commission. That is why. I didn't have to buy any unless I sold. So I thought I don't have to lay out so much money on them.

X-Q. 34. Who was your competitor in Atwater?

A. In what line do you mean?

X-Q. 35. In the line of shoe drills.

A. That is the Atwater Hardware and Machine Company.

X-Q. 36. What make of drills do they handle?

A. And Martin Anderson. Well, I couldn't state positively what line they handle, all of them.

X-Q. 37. What other makes of shoe drills have been handled in Atwater, Minnesota, that you know of?

A. Well, that is beyond my knowledge.

X-Q. 38. You don't know of any others that have been handled?

A. Oh, yes.

X-Q. 39. Well, what do you know of? I ask not all of them, but the ones you know of.

A. Well, there is the VanBrunt and there is the Superior. That is the main line that is handled.

X-Q. 40. The Superior shoe drill, you mean?

A. Well, both shoe and disk.

X-Q. 41. Where did you see a Superior shoe drill?

A. Oh, I see them all over as far as that is concerned.

X-Q. 42. Who handles them there?

A. Martin Anderson.

X-Q. 43. When did you see the last Superior shoe drill?

A. Oh, I couldn't say the date I see it last, if I saw it yesterday or two days ago. I couldn't say the last time I saw it.

X-Q. 44. What kind of a spring did the Superior shoe drill have on it?

A. I couldn't state that.

X-Q. 45. Do you think you have seen a Superior shoe drill in the last three years?

A. Oh, yes.

X-Q. 46. Why did you discontinue handling the Dowagiac shoe drill?

A. Well, it was higher in price than the Tiger.

X-Q. 47. How much difference?

A. I couldn't state that.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. The McSherry shoe drills that you bought from the Minnesota Moline Plow Company you bought outright, did you?

A. Yes.

Re-Cross Examination by Mr. Chappell.

R-X Q. 48 Who took your order for the McSherry shoe drills, if you remember?

A. I couldn't state that. It was a salesman on the floor. I would have to look up the contract. The contract will tell that. I haven't got the contract.

R-X Q. 49. You haven't got the contract here?

A. No.

The reading over and signing of this deposition by the witness was waived.

TRUE W. CHILDS, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. True W. Childs; I live in Mellette, Spink County, South Dakota.

Q. 2. And your name and your occupation?

A. I am 47 years old, deal in farm machinery, and farming and horses.

Q. 3. How long have you been dealing in farm machinery?

A. Twelve years.

Q. 4. I will ask you if you ever bought any shoe drills from the Minnesota Moline Plow Company?

A. I have.

Q. 5. Bought them outright?

A. Yes, sir.

Q. 6. What kind of shoe drills were they?

A. The McSherry shoe drill.

Q. 7. Do you remember the kind of spring pressure device they had for pressing the shoes to the ground?

A. I think they had a long "U" spring.

Q. 8. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, I liked the shoe. It was a short shoe, and they had a good feed, a good frame and a good wheel.

Q. 9. Did you buy them particularly because of the spring pressure device?

A. No, sir.

Q. 10. Do you remember about how many McSherry drills you bought from the Minnesota Moline Plow Company?

A. I couldn't say. I think it was a carload.

Q. 11. As I understand, you bought twenty-one; is that right?

A. I presume it is. I have got no record of any kind. I know I used to handle them and buy them, but I couldn't state how many.

Q. 12. What years was it?

A. Must have been in 1898 and '9, I think. Might have been 1897.

Q. 13. Did you ever sell any other kind of drills?

A. Yes, sir.

Q. 14. What kinds did you sell besides the McSherry?

A. The Richmond Champion.

Q. 15. Was that a shoe drill?

A. A shoe drill, yes, sir.

Q. 16. Do you remember what kind of a spring device that had for pressing the shoe to the ground?

A. I think they had a long "U" spring, as they call it.

Q. 17. Did you ever sell any Dowagiac drills?

A. No.

Q. 18. What kind of drills were sold or used in your part of the country generally?

A. Well, there was all kinds. The Dowagiac was one, the McSherry, the Richmond Champion, the VanBrunt, the Farmer's

Friend, the Superior; I guess there has been all kinds of drills sold through that section of the country.

Q. 19. What kind of drills are you selling now, if any?

A. The Tiger.

Q. 20. Do you have a drill on your farm?

A. Yes.

Q. 21. What kind of a drill is that?

A. We have got one Tiger drill and one Thomas drill at the present time.

Q. 22. What kind of a drill is the Thomas drill?

A. It is a disk drill.

Cross-Examination by Mr. Chappell.

X-Q. 1. What kind of a drill is the Tiger drill?

A. It is a shoe drill and a disk.

X-Q. 2. Which do you use it as, a shoe or a disk?

A. Both.

X-Q. 3. You have both disks and shoes for it?

A. Yes, sir.

X-Q. 4. How many acres did you sow with it as a shoe drill this past season?

A. About 300 acres, I think.

X-Q. 5. As a shoe drill?

A. As a shoe drill.

X-Q. 6. How much did you sow with it as a disk drill?

A. Well, the Thomas drill—they broke it, and I don't think they used it after it was broke.

X-Q. 7. You have got disks, then, for the Tiger drill?

A. Yes.

X-Q. 8. When did you buy this Tiger drill?

A. I think we have handled the Tiger drill since 1900.

X-Q. 9. When did you buy the one you are using on your farm?

A. I couldn't say as to that. It was the last shoe drill we had left in the warehouse. I couldn't say when we did buy it.

X-Q. 10. Have you handled any shoe drills since?

A. Nothing but the Tiger since the McSherry—yes, we have handled some of the Richmond Champion.

X-Q. 11. Are you handling shoe drills now?

A. Yes.

X-Q. 12. The trade is principally in disk drills now?

A. Well, as a rule most of them use disk drills, but there is some that want the shoe drill.

X-Q. 13. Who is the Dowagiac agent at your place?

A. I don't think they have any now. Mr. Cole has handled them in years past, D. W. Cole.

X-Q. 14. When did you first learn about the Dowagiac shoe drill?

A. Oh, I think it was along in 1892 or '3. Perhaps 1891.

X-Q. 15. Wasn't it the Dowagiac drill that had a "U" spring in place of these other drills you speak of?

A. Well, I think it has practically the same, about the same "U" spring, if I remember correctly.

X-Q. 16. What drills have been in the majority in use in your section?

A. It is hard to say.

X-Q. 17. Was the Farmer's Friend a shoe drill?

A. It was, yes, sir.

X-Q. 18. How many of those did you ever see?

A. Oh, I couldn't say.

X-Q. 19. Very few of them, wasn't it?

A. I think Henry Brown had it in there and sold it one or two years in the early nineties. Farmers' Alliance institution.

X-Q. 20. There haven't been very many of them sold since?

A. No, not but very few.

X-Q. 21. What is the character of the soil in your district?

A. It is a clay subsoil.

X-Q. 22. Any gumbo soil there?

A. Some, yes, sir.

X-Q. 23. What was your business before you become an implement dealer?

A. Farming and dealing in horses, coal and wool.

X-Q. 24. Have you named over all the different kinds of drills that were sold in your region, of the shoe drill variety, that you know of?

A. Oh, I don't know as I have named them all, but practically the whole of them.

X-Q. 25. When you speak of the Thomas, is that a shoe drill or a disk drill?

A. That is a disk drill now. I think they have been out with it two years.

X-Q. 26. Any hoe drills in that region?

A. Very few. I don't know of more than two or three.

X-Q. 27. Those are comparatively small sizes, I suppose?

A. Yes, eight feet, I guess, or nine feet.

X-Q. 28. Did you ever negotiate with the Dowagiac Company to handle their drills?

A. No, sir.

X-Q. 29. Did their agents ever visit you?

A. Yes, sir.

X-Q. 30. Do you remember who called on you?

A. No, I couldn't say. I think I had a letter from the house wanting me to take the agency for them once.

X-Q. 31. When was that?

A. I think it was in 1900 or 1901.

X-Q. 32. Did they communicate with you ever before that?

A. I think not.

X-Q. 33. Either directly or through their agents?

A. Not that I recollect.

X-Q. 34. How is the Dowagiac drill regarded in your region?

A. It has a very good reputation as a shoe drill.

X-Q. 35. How many Richmond Champion drills do you think you have ever sold?

A. I sold two or three carloads.

X-Q. 36. You never handled the Farmer's Friend?

A. No, sir.

X-Q. 37. When were the last sales of the Superior shoe drill in your territory?

A. I think I traded for one two or three years ago.

X-Q. 38. Got a second hand one?

A. A second hand one, yes.

X-Q. 39. What did you trade for?

A. The Richmond Champion, I think.

X-Q. 40. Have any of them been sold as new drills in your territory in the last five years?

A. Not that I know of.

X-Q. 41. When was the last one sold as a new one, that you remember of?

A. I couldn't say.

X-Q. 42. Can you tell what the spring structure of the Tiger shoe drill is that you are now selling?

A. It has a flat spring.

X-Q. 43. When did you buy your stock of them?

A. I think it was in 1900. I think we have handled them ever since 1900.

X-Q. 44. When did you buy the last from them?

A. Last winter. Not shoe drills but disk drills.

X-Q. 45. How about shoe drills?

A. Well, there isn't any demand for shoe drills, and there hasn't been to speak of for the last five or six years.

X-Q. 46. The shoe drills that you are handling have got a flat spring pressure?

A. Yes, sir.

X-Q. 47. The disk drills flat spring too?

A. No, I think it is a coil spring.

X-Q. 48. (Showing witness paper.) I call your attention to an illustration and ask you if you are able to state whether or not that correctly illustrates the Tiger shoe drill which you have been handling?

A. Well, I think so, if this represents a flat spring.

MR. CHAPPELL: This refers to Figure 1, of drawing of patent No. 672,916, issued April 30, 1901, to J. S. and S. W. Rowell, by the United States Patent Office, for seed drill hoe.

X-Q. 49. Whoever visited you and induced you to purchase McSherrey shoe drills?

A. I don't think there was anyone.

X-Q. 50. What induced you to purchase them?

A. Well, they had a good shoe, and a good feed, and a good frame; a good solid frame, a good wheel and a short shoe.

X-Q. 51. Did you pay any attention to the spring pressure device on it?

A. No.

X-Q. 52. You knew it was like the Dowagiac, didn't you?

A. I couldn't say that it was.

X-Q. 53. You knew what the Dowagiac was at that time, didn't you?

A. Practically, yes, sir.

X-Q. 54. And you knew what kind of spring pressure the McSherry had on it?

A. Yes.

X-Q. 55. When you purchased it?

A. Yes.

X-Q. 56. The Dowagiac drills, as far as you know, had good frames, didn't they?

A. Well, there was some fault about their sagging in the middle; didn't have truss rods enough; they would sag.

X-Q. 57. What size was it that you noticed didn't have truss rods enough?

A. Well, I wouldn't say they didn't have truss rods. They didn't have sufficient truss rods to keep them from sagging. Take 11-foot drill, for instance.

X-Q. 58. The feed on the Dowagiac was all right, wasn't it?

A. I think so, yes, sir.

X-Q. 59. The shoes were the right shape, weren't they?

A. Yes, sir. That is, they never have got anything better to my knowledge.

X-Q. 60. You bought the McSherry for less money than you could buy the Dowagiac, didn't you?

A. I couldn't say as to that.

X-Q. 61. Do you remember what you paid for the McSherry?

A. It seems to me the 11-foot drill was about $82.

X-Q. 62. You haven't your contracts here?

A. No.

X-Q. 63. What years was it that you handled the McSherry?

A. I think it was 1898 and '9. Might have been in 1897. I handled them two or three years.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. Did you ever have any complaint from farmers about the spring pressure device on the McSherry drills?

A. Some, yes, sir. The springs was not—they would break. If they struck a hard substance they would break.

R-D. Q. 2. Did you ever handle the VanBrunt drill?

A. No, sir.

R-D. Q. 3. Did you see them in your part of the territory?

A. The VanBrunt, yes, sir.

R-D. Q. 4. You may state whether or not they were a popular drill or extensively used?

A. Yes, sir, they are taking the lead in our section now.

R-D. Q. 5. How was it back at the time you were dealing in McSherry shoe drills?

A. Well, I couldn't say as to that.

R-D. Q. 6. Were they on the market then?

A. I think they had a shoe drill. I think Mr. Cole was handling the Dowagiac at that time.

R-D. Q. 7. I am speaking of the VanBrunt.

A. Well, I couldn't say. There was lots of VanBrunts sold there by a firm, Brown & Mitchell. They broke up in business.

R-D. Q. 8. Was that during the time you were dealing in McSherry drills?

A. No, it was prior to that.

R-D. Q. 9. Prior to that time?

A. Prior to that time.

R-D. Q. 10. Did you buy other lines of goods from the Minnesota Moline Plow Company as well as drills?

A. Yes, sir.

Re-Cross Examination by Mr. Chappell.

R-X Q. 64. The VanBrunt drills that you refer to are disk drills, are they not?

A. They wasn't in those days.

R-X Q. 65. Well, they have been disk drills for the last five or six years?

A. Five years, yes, sir.

R-X Q. 66. Very few Van Brunt shoe drills sold there, I suppose?

A. Very few shoe drills in our country have been sold since 1900.

The reading over and signing of this deposition by the witness was waived.

KNUTE O. LEE, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Knute O. Lee; residence, Aberdeen, South Dakota; occupation, dealer in farm implements.

Q. 2. How long have you been a dealer in farm implements?

A. Well, nearly all the time since 1888.

Q. 3. There at Aberdeen?

A. Yes, sir.

Q. 4. What kind of drills have you sold since you have been dealing in farm implements?

A. I have sold the McSherry, the VanBrunt, the Superior, and different lines; a few of other lines. I can't recollect all of them.

Q. 5. Who did you buy your McSherry drills from?

A. From the Minnesota Moline Plow Company.

Q. 6. And as I have the figures, you bought some 48 shoe drills from the Minnesota Moline Plow Company; is that about the right figure?

A. I wouldn't wonder but what that is about it. I have in my mind about two carloads, something like that.

Q. 7. Did you buy them outright?

A. Yes, sir.

Q. 8. During what years was it that you bought the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, it was along in 1899 to 1900, two or three years there. About three years, I think, I sold them. I don't just remember the exact years.

Q. 9. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, I handled their complete line, and got some of their drills in addition to the other drills that I was handling, principally the VanBrunt.

Q. 10. And did you sell other drills at the same time you were selling the McSherry?

A. Yes, I sold the VanBrunt, and I think I had a few of the Peoria at the same time.

Q. 11. Do you remember what kind of spring pressure device the McSherry drills had?

A. Yes, they had a round spring; that is, a double round spring.

Q. 12. A rod spring?

A. A rod, yes. I guess that is what they call them.

Q. 13. Was it the presence of the rod spring pressure device that caused you to buy the McSherry drills?

A. No.

Q. 14. What kind of spring pressure device did the VanBrunt drills have?

A. They had a coil spring; a steel coil spring.

Q. 15. What particular features would you call the attention of the farmers to in order to sell McSherry drills?

A. Well, one good feature about the McSherry drill was the chain drive on the feed; didn't have a gearing drive feed, and then they had a fine feed, and it was a nicely gotten up drill, and it wasn't a very heavy drill. It was a rather neat structure machine, and they had a fine shoe, short; it would not—that is, just the point of the shoe would go into the ground.

Q. 16. You mean the heel of it?

A. The heel, yes.

Q. 17. What kind of drills did you sell when you began in 1888, if you remember?

A. I think I sold the Hoosier. That is—well, in 1888 I didn't handle drills, but in 1889, I think, I started in with the Hoosier.

Q. 18. What kind of spring pressure device did it have, if you remember?

A. They had—I don't remember what kind of spring pressure device. I think a coil spring pressure.

Q. 19. What kind of a reputation did the Minnesota Moline Plow Company have throughout the northwest here?

A. They had a fine reputation. They were considered to be the leading house.

Q. 20. I believe you have said that you handled their general line of goods?

A. Yes, sir.

Q. 21. What other kind of drills were sold in your territory while you were selling the McSherry drills, if you can recall?

A. Oh, the Superior and the Dowagiac was my principal competitors, and the Kentucky. The Superior, the Dowagiac and Kentucky.

Q. 22. Do you remember what kind of spring pressure device the Superior drills had in those days?

A. A coil spring.

Q. 23. Were those shoe drills?

A. Yes.

Cross-Examination by Mr. Chappell.

X-Q. 1. When did you last see a Superior shoe drill on sale?

A. Well, I couldn't say about that. I couldn't say whether they handled Superior shoe drills last spring or not. I have seen some Superior drills there in town, disk, anyhow, but I couldn't say for sure whether I seen a shoe drill or not last spring.

X-Q. 2. You can't tell when you last saw a Superior shoe drill?

A. No.

X-Q. 3. Think you have seen one in the last seven years?

A. Yes, sir.

X-Q. 4. Where do you think you saw one?

A. At Aberdeen.

X-Q. 5. Who was selling it?

A. Why, what is that name; John McArthur & Sons handle the Superior.

X-Q. 6. Who handles the Dowagiac at Aberdeen?

A. C. A. McArthur & Company.

X-Q. 7. The same people that handle the Superior?

A. No, it is a different firm. Two different McArthurs.

X-Q. 8. You don't remember distinctly about the pressure device on the Hoosier drill in 1888 or '9, do you?

A. Well, it is my recollection that they had a coil spring, coil spring pressure.

X-Q. 9. How is that coil spring arranged?

A. Well, on a rod, on a steel rod.

X-Q. 10. With one big coil on the rod, and that extended back towards the boot; is that it?

A. Yes, I think so. I think it was a round rod and a round spring. A round coil spring.

X-Q. 11. Didn't the Hoosier have a weight to urge the shoes into the ground?

A. I never sold any with the weight shoes, with the weights. I think they had some.

X-Q. 12. Aren't you mistaken about the year, then, 1888 and 1889; wasn't it 1898 and 1899?

A. Well, that is possible; yes, in 1888 it was—no, I think it was 1889 or 1890, possibly. It was when I started in to handle their drills, and I know the first year I was in the machinery business; that was in 1888 I got into it, and I sold binders and threshing machines when I started in, and I finally got to selling drills in a year or two afterwards. I can't state distinctly just when I started in.

X-Q. 13. You don't remember the year you began business?

A. Yes, the machinery business, that was in 1888, but when I started in to sell drills I don't remember the exact year.

X-Q. 14. Might have been two or three years after that?

A. Yes. Might have been three years.

X-Q. 15. The first that you handled then was the Hoosier?

A. Yes, sir.

X-Q. 16. What did you handle next after the Hoosier; shoe drills I refer to?

A. I think it was the McSherry.

X-Q. 17. When did you begin handling the McSherry?

A. Well, along in 1899, I think.

X-Q. 18. Then how long a time did you handle the Hoosier?

A. Well, it was several years there I sold the Hoosier.

X-Q. 19. How many Hoosiers do you think you sold all together?

A. Well, not a great many. I didn't sell very many of them. They didn't take so very well in our country. The Superior and the Dowagiac seemed to have the lead at that time and I didn't sell very many drills.

X-Q. 20. The Superior shoe drill, you mean, or the Superior disk drill?

A. Well, the Superior disk drill had the lead—well, they sold quite a lot of shoe drills in the first place, but when the disk drill come on the market then that took the lead.

X-Q. 21. They never sold so very many of the Superior shoe drills?

A. I don't think there was so very many sold of them.

X-Q. 22. Did you ever attempt to secure the agency of the Dowagiac shoe drills?

A. Yes.

X-Q. 23. When was that?

A. Oh, that was a long time ago. When they first got out.

X-Q. 24. Did you ever handle the Dowagiac at all?

A. No.

X-Q. 25. What is the most popular shoe drill down in your section of the country?

A. Well, the shoe drills are not very popular down there now. They can't sell any shoe drills hardly.

X-Q. 26. Along in the nineties what was the most popular shoe drill?

A. Well, I don't know. I think the VanBrunt was about as popular as any that was sold there.

X-Q. 27. Wasn't the Dowagiac equally popular, or more so?

A. Well, there was quite a lot of Dowagiacs sold also. It was about a standoff, I guess, between the Van Brunt and the Dowagiac.

X-Q. 28. Did you ever sell any King drills?

A. Yes, sir, I did.

X-Q. 29. What kind of drills were those?

A. Well, they were a pretty fair drill.

X-Q. 30. Were they shoe drills or disk drills?

A. They are disk drills.

X-Q. 31. When did you sell those?

A. I don't remember now what year that was. It was some six years ago, I guess; about six years ago.

X-Q. 32. Which grain drill that you know of had the best feed on it?

A. Well, I think the McSherry and the Superior and the Van Brunt, as far as I know, had about as good a feed as any.

X-Q. 33. The Dowagiac had a good feed, didn't it?

A. I don't know so much about it, but I think they had a good feed. I never heard anything against their feed.

X-Q. 34. Most of the drills of standard make had a good feed on them, didn't they?

A. Well, they wouldn't hardly put out any drills without a good feed nowadays.

X-Q. 35. Have you any other business establishments than at Aberdeen?

A. Yes, I have got a branch at Groton.

X-Q. 36. What grain drills do you handle there?

A. Well, I haven't done anything much in the grain drill line there. We handle principally threshing machines. I only keep up that point mostly for the sale of threshing machines. I have sold a few drills down there, mostly the Monitor.

X-Q. 37. The Monitor disk drill is what you refer to, I suppose?

A. Yes, and a few Fountain Citys.

X-Q. 38. Fountain City disk drills, too, I suppose?

A. Yes.

X-Q. 39. What make of drills are you handling now of the shoe variety?

A. Well, I don't do much in the drill line. The last two or three years I haven't done much in the drill line. I have sold a few Fountain Citys and VanBrunts the last two or three years.

X-Q. 40. Shoe drills?

A. Oh, mostly disk drills. The drill trade has not been much at Aberdeen the last two or three years.

X-Q. 41. Do you mean to say that the farmers in buying drills around in your section there pay very little attention to the spring pressure device?

A. Why, that don't seem to make any difference. The principal drill that has been selling there the last two or three years is the Superior.

X-Q. 42. Disk drill?

A. The Superior disk drill, yes, sir. They sell more Superiors there than all the rest of them put together.

X-Q. 43. You don't remember much about the consideration they gave to the spring pressure device on shoe drills, do you?

A. They don't seem to—it don't seem to make any difference. It seems as though coil spring drills there have had the lead at Aberdeen. I know when I sold the Superior there I sold—the last year I handled the Superior I sold—well, I sold about two car-loads, and done it in just a few days.

X-Q. 44. That was the disk drill, wasn't it?

A. Yes, it was the disk drill, the Superior disk.

X-Q. 45. The question related to shoe drills.

A. Yes. Well, that don't seem to make any difference; didn't seem to make any difference which spring they bought. They bought everything, you know.

X-Q. 45. Who handled the VanBrunt shoe drill there?

A. Well, I sold it up to last year, I didn't sell it. Been selling it for a number of years there.

X-Q. 46. You have been the only agent for the VanBrunt for some time, then?

A. Well, except last year.

X-Q. 47. The VanBrunt shoe drills?

A. Well, I am mistaken about that, too. I sold out there about three years ago; sold out the general line there, and then I quit handling drills for about two years, until last year, and then I took up the Fountain City line.

X-Q. 48. Who handled the VanBrunt?

A. I handled the VanBrunt prior to that.

X-Q. 49. What price did you pay for the 22 shoe VanBrunt?

A. Well, I don't remember now. It seems to me it was about $80.

X-Q. 50. Your contract was made with what concern?

A. The VanBrunt Manufacturing Company.

X-Q. 51. You haven't got your contracts here, I suppose, relating to that?

A. No.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. Do you remember whether it was VanBrunt & Wilkins or the VanBrunt Manufacturing Company?

A. I think it was VanBrunt & Wilkins. That is right.

R-D. Q. 2. The coil spring on the VanBrunt is veritcally arranged, is it not?

A. Yes.

R-D. Q. 3. How was it arranged on the Hoosier, vertically or otherwise?

A. It was kind of slanting. It seems to me it was on a slant.

R-D. Q. 4. Was it a spiral coil spring?

A. Yes.

R-D. Q. 5. Is there any gumbo land in your country?

A. Not very much gumbo. A light sandy loam and black loam.

The reading over and signing of this deposition by the witness was waived.

ANDREW J. EKANDER, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Andrew J. Ekander; Willmar, Minnesota; blacksmith by trade, and have been dealing in the implement business for about thirteen or fourteen years.

Q. 2. Please state what kind of farm implements you have dealt in during this time.

A. The most implements I have handled has been the Minnesota Moline Plow Company's goods.

Q. 3. Their different lines of goods?

A. Yes, nearly all lines that they have.

Q. 4. Did you ever sell any shoe drills?

A. Yes, I did.

Q. 5. Any McSherry shoe drills?

A. Yes.

Q. 6. Who did you buy them from?

A. I bought them from their traveling agent.

Q. 7. The traveling agent of the Minesota Moline Plow Company?

A. Yes, sir.

Q. 8. According to my figures, you bought some 24 shoe drills from the Minnesota Moline Plow Company; is that about right?

A. I can't tell exactly. I bought quite a few of them.

Q. 9. During what years was it that you bought McSherry shoe drills from the Minnesota Moline Plow Company?

A. I think it was in 1898, 1899 and 1900. I think it was.

Q. 10. Did you buy them outright?

A. Yes, sir.

Q. 11. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Because it was a good put up drill, a good frame, good wheels on it.

Q. 12. Do you remember what kind of a spring pressure device it had for pressing the shoes to the ground?

A. Yes.

Q. 13. Did you buy the McSherry shoe drill because of the peculiar kind of spring pressure device that it had?

A. No, I did not. There was drills that had just as good pressure as they had.

Q. 14. What points would you make in talking with the farmers to sell them a McSherry shoe drill?

A. The point I spoke about was in the wheels; it had good, solid, wide wheels, and a good frame, put up good.

Q. 15. Did you ever sell any other kind of shoe drills besides the McSherry?

A. I did. I sold the Kentucky.

Q. 16. Was that at the same time, or before, or afterwards?

A. It was at the same time I handled the McSherry.

Q. 17. Of whom did you get the Kentucky shoe drills?

A. Why, I think I bought them from the Deere & Webber Company, if I ain't mistaken.

Q. 18. What kind of reputation throughout your part of the country did the Minnesota Moline Plow Company have?

A. They had a good reputation for their goods.

Q. 19. Do you have any gumbo soil in your part of the country?

A. Oh, yes.

Q. 20. What other kinds of shoe drills were sold in your part of the country in competition with the McSherry drills that you were selling?

A. Well, quite a few of the other drills sold there. There was the Tiger drill, there was the Dowagiac and the VanBrunt.

Q. 21. When did you first sell shoe drills of any kind?

A. The first drills I ever sold was the drills I got from the Minnesota Moline Plow Company.

Q. 22. The McSherry drills?

A. Yes, sir.

Cross-Examination by Mr. Chappell.

X-Q. 1. When did you first learn of the Dowagiac shoe drill?

A. I never learned anything about it at all. I never looked the drill over.

X-Q. 2. When did you first hear of it?

A. I heard of it from the other dealers that have been selling it in our town.

X-Q. 3. When did you first hear of it?

A. Oh, that was quite a few years ago.

X-Q. 4. What kind of a reputation did it have as a grain drill?

A. Its reputation I don't know anything about.

X-Q. 5. Don't know whether it was a good drill or not?

A. No, sir. I never asked any farmer about it, what kind of one he did have.

X-Q. 6. Did you ever negotiate for the purchase of the Dowagiac drill?

A. No, sir.

X-Q. 7. What price did you have to pay for McSherry drills?

A. I can't tell you exactly. Depends on the size of the drill.

X-Q. 8. The 22 shoe size?

A. That is something I can't tell you now without looking it up.

X-Q. 9. You haven't got your contracts here?

A. No.

X-Q. 10. Do you remember what you paid for the Kentucky drills?

A. They was about the same price. There wasn't over a dollar or two difference.

X-Q. 11. Who handles the Dowagiac drill in your town?

A. There is a fellow by the name of E. S. Stansberry used to handle them.

X-Q. 12. Was the frame on the McSherry drill better than it was on the Kentucky?

A. On the Kentucky? The frame was about the same strength in both of them. The Kentucky was a little bit heavier.

X-Q. 13. How about the wheels on the McSherry and Kentucky, were they heavier?

A. Well, they were about the same weight, the same size of wheel.

X-Q. 14. What was the peculiarity about these wheels; were they different from other implement wheels?

A. Yes. It is because they had a wider wheel; it would bear up more on the ground than a more narrow wheel, a more narrow tire.

X-Q. 15. They had wide tires; is that it?

A. They had a wide tire, yes.

X-Q. 16. No reason why anybody should not put wide tires on their grain drills, that you know of?

A. They could have had, but they cost a little more, a wider tire.

X-Q. 17. How wide were the tires on the McSherry drill?

A. From three up to four inches.

X-Q. 18. What sizes of McSherry drills did you handle?

A. What sizes? It was from 16 to 22 hoe—shoe.

X-Q. 19. What grain drill are you handling now?

A. I ain't handling any. I haven't sold any drills for four years.

X-Q. 20. What was the last that you handled; what make?

A. The last that I did handle, I think, was the McSherry, the later style. I had a partner in company with me that time, so wasn't around much in the warehouse myself.

X-Q. 21. How long has it been since you had anything to do personally with the sale of shoe drills?

A. It is somewhere about five years.

X-Q. 22. What was the difference between the feed on the McSherry and on the Kentucky?

A. There wasn't very much of a difference in the feed, nearly the same.

X-Q. 23. What sort of a spring pressure device did the Tiger shoe drill have that you saw, and when did you see the last one?

A. The Tiger?

X-Q. 24. Yes.

A. I never handled the Tiger.

X-Q. 25. Well, that you saw handled in your territory?

A. Well, I never looked at it.

X-Q. 26. Don't know what it was?

A. No, sir.

X-Q. 27. Who handled them?

A. Stansberry.

X-Q. 28. When the farmers bought McSherry shoe drills from you, didn't they look at the springs and see what there was there?

A. Well, they looked them over, yes.

The reading over and signing of this deposition by the witness was waived.

LAURITZ C. PETERSON, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Age, about 42; I live at Tyler, Minnesota, and I am in the merchandise business at present.

Q. 2. What is the name of your firm?

A. When I was handling machinery?

Q. 3. Yes, when you were handling machinery.

A. Madsen, Oxholm & Peterson.

Q. 4. What kind of machinery did your firm handle?

A. They handled the Moline Plow goods, practically all, the full line of machinery, wagons, buggies, etc., and drills.

Q. 5. What kind of a reputation did the Minnesota Moline Plow Company have in your territory?

A. It certainly had a good reputation.

Q. 6. Did your firm handle shoe drills among other things?

A. Yes.

Q. 7. The McSherry shoe drills?

A. Yes, sir.

Q. 8. That you bought from the Minnesota Moline Plow Company?

A. Yes, sir.

Q. 9. According to my figures the firm of Madsen, Oxholm & Peterson bought in the neighborhood of forty McSherry shoe drills from the Minnesota Moline Plow Company; is that about correct?

A. Yes, I think it was something over 40. There was a few disk drills the few last years.

Q. 10. I am speaking of shoe drills.

A. Yes, something between 35 and 40; something like that. I can't tell exactly now.

Q. 11. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

A. We started with it on account I couldn't get really what I wanted at the time, because the other party had the drill I really preferred to handle, and I bought all the rest of my goods, plow goods and wagons and buggies from the Moline Plow Company, and therefore I concluded to buy my drills from them, as long as I thought I had dealt with a good party, and they would stand by me if the drill wasn't good.

Q. 12. Did you buy your drills outright?

A. Yes, sir.

Q. 13. Do you remember the kind of spring pressure device the McSherry drills had for pressing the shoes down to the ground?

A. Yes, sir.

Q. 14. Did you buy the McSherry drills because they had that particular kind of spring pressure device?

A. No, sir.

Q. 15. What point would you talk in trying to sell McSherry drills to the farmers?

A. I would talk all the points there was on the machine; talk every bolt, if I had a chance.

Q. 16 Please name some of the principal things that you would emphasize in your talks.

A. Oh, I don't know what I had, but I remember that I liked the feed, and the chain drive of the feed, especially. Otherwise, I didn't know very much about the drills before I started.

Q. 17. While you were handling McSherry drills, did you or your firm also handle other kinds of shoe drills?

A. We didn't for the two first years.

Q. 18. After that, did you?

A. Yes, sir.

Q. 19. What kind did you sell?

A. Shoe drills? I beg your pardon. It was not any shoe drills; it was a disk drill, the Monitor.

Q. 20. Had you ever sold any drills before you sold the McSherry drills?

A. No, sir.

Q. 21. After you ceased to sell the McSherry shoe drills what kind of drills did you sell, if any?

A. Well, I put out some VanBrunts. That is, I really sold out in the fall, but I filled some orders with the McSherry. That is, I filled some orders with the VanBrunt, and replaced some McSherry orders, on account I had some that didn't give satisfaction.

Q. 22. Some McSherrys that didn't give satisfaction?

A. Yes.

Q. 23. Do I understand that you filled those orders, or replaced those drills, with the VanBrunt?

A. Yes, sir.

Q. 24. The VanBrunt shoe drills?

A. Some of them.

Q. 25. What kind of spring pressure device did the VanBrunt drills have?

A. A coil spring.

Q. 26. Is there any gumbo soil in your part of the country?

A. Not any to speak of.

Q. 27. I believe you have spoken about some dissatisfaction with some of the McSherry drills; did I understand you correctly?

A. Yes.

Q. 28. What was the dissatisfaction about?

A. The dissatisfaction was the last year drill; it was principally the feed.

Q. 29. Principally the feed; anything else?

A. No, I don't think it was.

Cross-Examination by Mr. Chappell.

X-Q. 1. What year was this that the feed was bad on the McSherry?

A. I think that must have been 1902, something like that. I mostly think so. Still, I wouldn't swear to what year.

X-Q. 2. Who handled the Dowagiac drills at your town?

A. I think that a fellow by the name of McGandy, A. McGandy, I think.

X-Q. 3. What drill was it that you preferred to the McSherry when you began handling the McSherry?

A. It was a VanBrunt.

X-Q. 4. Why did you prefer the VanBrunt to the McSherry?

A. Because it had a good reputation in that section of our country.

X-Q. 5. Who was handling the VanBrunt in your territory at that time?

A. That was McGandy, the same man that had the Dowagiac.

X-Q. 6. What other drills were on sale in your territory, of the shoe variety, before the disk drills came in?

A. I don't know much about it, only this here VanBrunt. The VanBrunt and Dowagiac. Them two drills was the principal ones when I started.

X-Q. 7. You mean with the McSherry?

A. Yes.

X-Q. 8. What other shoe drills were introduced after that?

A. I think the Tiger was.

X-Q. 9. Very many Tigers sold, shoe drills?

A. No, not that I know of.

X-Q. 10. Any Kentucky shoe drills?

A. I think that was afterwards. A year after I started I think there was some Kentuckys sold, too.

X-Q. 11. You could buy the VanBrunt drills for a less price than you could the others, couldn't you?

A. I think not.

X-Q. 12. You could buy the McSherry at the same price you could the VanBrunt?

A. I can't just recollect what price I paid for them, but it seems to me we had to put up more money for the VanBrunt than we did for the McSherry.

X-Q. 13. Did you ever try to buy the Dowagiac?

A. No, sir.

X-Q. 14. Have you got your contracts here on which you bought

the VanBrunt and the McSherry, so we can see exactly what you paid for them?

A. I have not. I didn't bring any; no.

X-Q. 15. What years did you handle the VanBrunt shoe drill?

A. That must be 1902, I think. I am not positive, because I can't remember those years.

X-Q. 16. Well, at that time the disk drill was the principal drill, wasn't it, that was made by the VanBrunts?

A. I think they just started with it; it was used quite frequently then, but I replaced quite a few of mine with a shoe drill.

X-Q. 17. You replaced disk drills with shoe drills; is that right?

A. Quite a few of them, but I also replaced McSherry drills with the VanBrunt shoe drill.

X-Q. 18. That was on account of the defect in the feed in 1902; is that right?

A. Yes.

X-Q. 19. Do you remember what kind of a spring the McSherry drill had when the feed was defective?

A. Yes.

X-Q. 20. Just describe what it was, briefly.

A. Well, it was a long, round spring.

X-Q. 21. Was there a flat bar up on the edge between the springs on that structure?

A. Well, I can't just recollect. They had a kind of hook you could hook over the bar.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. Was this McSherry feed that gave the dissatisfaction what was known as the double run feed?

A. I am sure I don't know what they called it.

R-D. Q. 2. Fed it through each side of the cup?

A. Yes.

R-D. Q. 3. That was a different kind of feed from what they had been using, was it not?

A. Yes, sir.

R-D. Q. 4. Did you ever use a McSherry shoe drill yourself?

A. No, I didn't use any myself. Still, I was in the field with them.

R-D. Q. 5. Do you own a farm?

A. I owned a farm, but I was not farming myself.

R-D. Q. 6. What kind of shoe drill was used on your farm, if you remember?

A. I think that was a VanBrunt at the time.

R-D. Q. 7. The VanBrunt had a coil spring pressure device, did it?

A. Yes, sir.

R-D. Q. 8. A spiral coil spring?

A. Yes.

The reading over and signing of this deposition by the witness was waived.

LARS P. LARSON, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Lars P. Larson; 42; Evan, Minnesota.

Q. 2. And your occupation; what is your business?

A. Grain buyer.

Q. 3. What is the name of your firm?

A. R. H. Bingham & Sons.

Q. 4. Did it used to be Larson & Hanson?

A. Yes, sir.

Q. 5. What did the firm of Larson & Hanson deal in?

A. A general line of implements, farm implements.

Q. 6. Grain drills, among other things?

A. Yes, sir.

Q. 7. What kind of grain drills did your firm buy and sell?

A. The McSherry.

Q. 8. Who did you buy them from?

A. The Minnesota Moline Plow Company.

Q. 9. Buy them outright?

A. Yes, sir.

Q. 10. What reputation did the Minnesota Moline Plow Company have for its goods throughout your part of the country?

A. Good reputation.

Q. 11. Did you deal in other things sold by the Minnesota Moline Plow Company?

A. Yes, sir.

Q. 12. Their general line of goods?

A. Very near.

Q. 13. As I have the figures, your firm bought something over 30 McSherry grain drills from the Minnesota Moline Plow Company; are these figures about right?

A. Pretty near, during the time that we handled them.

Q. 14. What years did you handle them, if you remember?

A. As near as I recollect, it was in 1899 and 1900, something like that. I couldn't say whether we started in 1898 or started in 1899. I think we handled them for—that is, the firm, I and Mr. Hanson, handled them one year, and I and Fifer handled them after that, but I think that is pretty near the number sold.

Q. 15. Please state, Mr. Larson, what caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company.

A. Well, on account of the frame. I had previously handled their plows on my own accord, previous to that time, and that was the only machinery firm I was acquainted with, and they were well represented there in the vicinity, and their guaranty of all the goods was principally the cause.

Q. 16. Do you remember the spring pressure device that was on these McSherry drills to press the shoes to the ground?

A. Yes, sir.

Q. 17. Did you buy them because of that peculiar or particular spring pressure device?

A. No, sir.

Q. 18. When you sold drills to the farmers what talking points did you make in order to make sales?

A. In fact, I did not do much of the selling. I was tending to the elevator, and my partner, Mr. Hanson, done most of the selling.

Q. 19. Did your firm handle other kinds of grain drills besides the McSherry at the same time?

A. No, sir.

Q. 20. Had you handled any before that time?

A. No, sir.

Q. 21. Have you handled other kinds since?

A. No, sir.

Q. 22. Is there any gumbo soil in your part of the country?

A. I am sure I don't know. I hardly think there is. I think they call it black loam.

Cross-Examination by Mr. Chappell.

X-Q. 1. What other drills are sold in your territory of the shoe variety?

A. There hasn't been any others sold until this year.

X-Q. 2. That is, none that you know of?

A. That I know of.

The reading over and signing of this deposition by the witness was waived.

JOHN A. HANSON, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is John A. Hanson; I live at Ivanhoe, Minn.; I am 30 years of age, and I am interested in the implement business, farm implements.

Q. 2. Were you at any time in partnership with Mr. Lars P. Larson, who has just testified?

A. Yes, sir.

Q. 3. That was at Evan, Minnesota?

A. Yes, sir, at Evan, Minnesota.

Q. 4. Do you remember handling McSherry shoe drills at that time?

A. Yes, sir.

Q. 5. As I have the figures, your firm handled something over 30 McSherry shoe drills; is that about right?

A. No, that is not right, I don't believe. That must include what Larson and Fifer handled also. I don't think we handled more than eight or ten, or possibly twelve, while I was interested in the firm.

Q. 6. What other goods did you handle at the same time?

A. Why, we handled a line of farm implements, buggies, wagons, plows, cultivators, and such as that.

Q. 7. What particular feature of the McSherry shoe drills caused you to buy them from the Minnesota Moline Plow Company, if you can tell us?

A. I don't know as there was any particular features that caused us to buy them.

Q. 8. That is, any one particular feature?

A. No, I don't know as there was any one, or any particular feature that caused us to buy the drill.

Q. 9. Did you personally make sales of McSherry shoe drills to the farmers?

A. Yes, to a great extent.

Q. 10. What particular points would you call attention to in trying to make sales?

A. Well, I don't know as there was any very particular point, or any great point, that you would call attention to. The frame on the drill I generally called attention to. It was a very good frame, and the wheels, and they had a very good four-horse equalizer, and a nice light drill in appearance. The general appearance of it was good, I thought.

Q. 11. In making sales to farmers did you lay special emphasis on the particular kind of spring pressure device?

A. No, sir.

Q. 12. What was the reputation of the Minnesota Moline Plow Company for its goods up there in your part of Minnesota?

A. Pretty good.

Q. 13. Your firm handled other goods of that same company, did it?

A. Yes, sir.

Q. 14. Since you ceased to be a member of the firm of Larson & Hanson have you dealt in grain drills of any kind?

A. Yes, sir.

Q. 15. What kinds?

A. I sold mostly the VanBrunt.

Q. 16. Shoe or disk?

A. Both shoe and disk. Some Kentuckys and some Dowagiacs and the Fountain City.

Q. 17. What kind of pressure device did the VanBrunt drills have?

A. It has a coil spring.

Q. 18. The shoe drills; it has a coil spring?

A. Yes.

Cross-Examination by Mr. Chappell.

X-Q. 1. The VanBrunt and Kentucky drills, were those disk drills or shoe drills that you have been handling since?

A. The Kentucky was a shoe drill, the VanBrunt is some shoe and some disk drill.

X-Q. 2. How many shoe drills?

A. Of which?

X-Q. 3. Of the VanBrunt?

A. Why, I couldn't say exactly; possibly 12 to 15 of the Van Brunt. I never sold but two Kentuckys.

X-Q. 4. Did any farmer that you ever exhibited a McSherry drill to have any doubt about that spring pressure device being all right?

A. Well, I don't know. It is five or six years since I sold them, and, of course, there might have been.

X-Q. 5. You don't remember of any farmer ever saying that that spring pressure device was not the right thing, do you?

A. No.

X-Q. 6. You would not expect a farmer to be very critical about that spring pressure device, would you?

A. Well, they might be, sometimes.

X-Q. 7. Well, you never knew one to be, did you?

A. No.

X-Q. 8. Did they ask any questions about the frame?

A. They generally do.

X-Q. 9. What was there peculiar about the McSherry frame that you had to talk about?

A. Well, they were well braced; a steel frame, well joined together.

X-Q. 10. What was there about the wheels that could be talked about specially?

A. Well, they had a good, wide tired wheel. Otherwise, it was about the same as every other wheel.

X-Q. 11. How did the machine compare in grade with the Kentucky and the Dowagiac and the VanBrunt?

A. Why, I guess it compared pretty well.

X-Q. 12. About the same grade, would you think?

A. Yes.

X-Q. 13. Where did you get the Dowagiac drills which you sold?

A. I bought them——

X-Q. 14. Or were they disk or shoe drills?

A. They were shoe drills, and we bought them from another firm that went out of business.

X-Q. 15. What was that firm?

A. It was Swenson & Noy.

X-Q. 16. How many of them did you get?

A. I think it was five.

X-Q. 17. Have any trouble about selling them?

A. Yes, I had some trouble.

X-Q. 18. What did they object to about them?

A. Well, the trouble was after I had sold them. The objection was that there wasn't pressure enough on the shoes.

X-Q. 19. When did you get these drills?

A. It was a year ago this spring when I bought them and sold them again.

X-Q. 20. They were new drills when you bought them?

A. Well, they was carried over. I don't know how long.

X-Q. 21. What kind of springs was there on them?

A. They were those steel rod springs.

X-Q. 22. Were they U-shaped in the casting in front, or were they two separate springs that hung over the top of a bar?

A. I believe they were separate.

X-Q. 23. What farmer complained that he couldn't get pressure enough on those?

A. There was two farmers that complained they couldn't get pressure enough.

X-Q. 24. Who were they; give their names and places of address?

A. One was William Jerzak, Ivanhoe, Minnesota. The other one was Mat Pryzmus, Ivanhoe, Minnesota.

X-Q. 25. How large were those drills?

A. They were 22 shoe.

X-Q. 26. What was the most popular shoe drill at your town?

A. The VanBrunt.

X-Q. 27. Who handles the VanBrunt now?

A. We do, or the firm that I represent now.

X-Q. 28. You don't have to pay so much for VanBrunt drills as you do for the Dowagiac, do you?

A. I never bought any Dowagiacs, so I don't know; that is, from the company.

X-Q. 29. What price do you pay for the VanBrunt 22 shoe size?

A. I think it is $93. I wouldn't say for sure.

X-Q. 30. Some discounts and freights off of that, aren't there?

A. Yes.

X-Q. 31. What other makes of shoe drills have been sold in that territory since you became familiar with them?

A. The Dowagiac, and the Hoosier, and the Monitor, and there may be others; the Fountain City.

X-Q. 32. When was the last Monitor shoe drill sold there that you know of?

A. Last spring.

X-Q. 33. Who bought it?

A. Well, I know of, I think, two that bought Monitor drills.

X-Q. 34. Were they shoe drills or disk drills?

A. They were disk drills.

X-Q. 35. My question was as to the Monitor shoe drills.

A. I don't know as there has ever been any shoe drills sold there.

The reading over and signing of this deposition by the witness was waived.

JAMES G. RATHBUN, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is James G. Rathbun; 37 years of age; I live at Webster, Day County, South Dakota; am in the farm implement business and farming.

Q. 2. How long have you been dealing in farm implements?

A. I think about eight years.

Q. 3. Did you ever deal in shoe drills?

A. Yes, sir.

Q. 4. Did you ever buy any shoe drills from the Minnesota Moline Plow Company?

A. Yes, sir.

Q. 5. Those were McSherry shoe drills, were they?

A. Yes, sir.

Q. 6. According to my figures, you bought about 8 or 10 shoe drills from the Minnesota Moline Plow Company; is that about right?

A. I think so.

Q. 7. During what years was it that you bought these McSherry shoe drills?

A. Well, sir, I couldn't tell you exactly. I think it was somewhere along about 1898 or 1899.

Q. 8. Did you buy them outright?

A. Yes.

Q. 9. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

A. Why, there have been a great many of their seeders sold where I live, and they always had a good reputation; that is, their seeders, and I was buying goods of the Moline Plow Company, and bought my drills there of them, so as to get them shipped in at the same time, with less freight.

Q. 10. The Minnesota Moline Plow Company's goods had a good reputation in your part of the country, did they?

A. Yes, sir, they did.

Q. 11. Do you remember the kind of spring pressure device these McSherry drills had?

A. Yes, sir.

Q. 12. Long rod springs?

A. Yes, sir.

Q. 13. Did you buy these McSherry drills because they had this particular kind of a spring pressure device?

A. I did not.

Q. 14. Did you yourself personally sell these drills to farmers?

A. Yes, sir.

Q. 15. What particular points would you call the farmers' attention to in making sales of these McSherry drills?

A. Why, the chain feed on them was the principal thing. They were a well put up drill, well made.

Q. 16. Good appearing drills?

A. Yes, sir.

Q. 17. Did you sell any other kind of shoe drills while you were selling this McSherry?

A. Yes, sir.

Q. 18. What kinds?

A. Sold the Tiger and the Fountain City.

Q. 19. What kind of spring pressure device did the Tiger and Fountain City have?

A. The Tiger had a flat spring, and the Fountain City had a spiral spring.

Q. 20. Did you ever sell any Dowagiac drills?

A. No, sir.

Q. 21. Are you dealing in drills now?

A. Yes, sir.

Q. 22. What kind of soil do you have in your part of the country?

A. We have some sandy and some black loam.

Q. 23. Do you have any gumbo soil?

A. Not to speak of.

Cross-Examination by Mr. Chappell.

X-Q. 1. In selling the McSherry shoe drills to the farmers did any farmer ever express any doubt about that spring pressure device being as good as there was?

A. I have had one or two speak about it.

X-Q. 2. What did they say about it?

A. Some—I remember of one or two people that said that they would rather have a coil spring. That is the way I come to handle the Fountain City.

X-Q. 3. How many Fountain City shoe drills did you ever sell?

A. Oh, I suppose I sold probably as many of those as I have of the McSherrys. Somewhere eight or ten.

X-Q. 4. How many Tigers did you ever sell of the shoe drill kind?

A. I think four or five.

X-Q. 5. What other drills were on sale in your territory of the shoe variety?

A. The VanBrunt, the Sucker State, the Kentucky, the Dowagiac and the Peoria.

X-Q. 6. Which had the largest sale?

A. The VanBrunt.

X-Q. 7. Who handled the VanBrunt?

A. Peterson & Company.

X-Q. 8. What size of Fountain City shoe drills did you sell?

A. 20 and 22 shoe mostly on everything.

X-Q. 9. How many did you sell did you say?

A. Of the Fountain City?

X-Q. 10. The Fountain City shoe drill?

A. I have sold just about the same as I have of the McSherry. Probably 8 or 10 of them.

X-Q. 11. Why did you discontinue the McSherry?

A. I haven't discontinued it.

X-Q. 12. Are you still handling the McSherry?

A. Yes, sir.

X-Q. 13. How many of them have you got on hand?

A. I ain't got any.

X-Q. 14. When did you take up the Fountain City shoe drill?

A. Let's see; I think it was three years ago.

X-Q. 15. Who was manufacturing it then?

A. I don't know.

X-Q. 16. Who manufactures the Fountain City now, if you know?

A. I don't know.

X-Q. 17. Are you handling the Fountain City shoe drill now?

A. I did this year.

X-Q. 18. From whom did you buy it?

A. I bought it from a man by the name of Peterson.

X-Q. 19. What company did he represent?

A. He didn't represent any company, he bought the drills of another firm.

X-Q. 20. When did you first learn of the Dowagiac shoe drill?

A. Why, I couldn't say exactly. I have heard about them for some time; there was a man there selling them.

X-Q. 21. What is that?

A. I say there was a man in our town there selling them. I knew of them and that is about all.

X-Q. 22. Did you ever see any Dowagiac shoe drills in use in the field before you went into the implement business?

A. I never had.

The reading over and signing of this deposition by the witness was waived.

ROBERT FRITSCHE, a witness produced, sworn and examined on the part of the defendant, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Robert Fritsche; 37 years old; Lamberton, Minn.; dealer in farm implements.

Q. 2. How long have you been dealing in farm implements?

A. Since the spring of 1900.

Q. 3. What was the name of your firm?

A. Doster & Fritsche.

Q. 4. Did your firm deal in shoe grain drills, among other things?

A. Yes, sir.

Q. 5. Who did you buy them from?

A. Of Mr. Smith of the Minnesota Moline Plow Company.

Q. 6. According to my figures, your firm bought about 45 shoe drills from the Minnesota Moline Plow Company; are those figures about right?

A. About correct.

Q. 7. During what years was it that you bought them?

A. 1900 to 1901; also we had some Monitors and the Kentucky.

Q. 8. At the time you were selling the McSherry did you have Monitors and Kentuckys also?

A. Yes, sir.

Q. 9. Were those shoe drills?

A. Yes, sir.

Q. 10. What was the reputation of the goods of the Minnesota Moline Plow Company in your part of the country?

A. Very good.

Q. 11. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Why?

Q. 12. Yes, what caused you to buy them?

A. We handled their line.

Q. 13. Was there any one particular feature or thing about them that caused you to buy them?

A. No, sir.

Q. 14. Do you remember the kind of spring pressure device they had to press the shoes to the ground?

A. Had a rod pressure.

Q. 15. Did you buy them because of this particular rod pressure device?

A. No, sir.

Q. 16. Did you yourself sell McSherry drills to the farmers?

A. I did.

Q. 17. What particular features would you call their attention to in making a sale?

A. Their light drive, pulley hitch, and also about the feed, the chain.

Q. 18. What kind of spring pressure device did the other drills that you sold at the same time have?

A. The Monitor has a coil spring, and the new Kentucky had a flat spring.

Q. 19. Which did you sell the most of, the McSherry or the Monitor?

A. The McSherry.

Q. 20. Since you quit selling the McSherry what have you been selling?

A. The new Kentucky, disk drills now.

Q. 21. Are you selling any Monitor drills now?

A. No, sir.

Q. 22. Prior to 1900 what kind of drills, if any, did you sell?

A. None.

Cross-Examination by Mr. Chappell.

X-Q. 1. How many Monitor shoe drills did you ever sell?

A. About seven.

X-Q. 2. Were they shoes or disks?

A. Shoes.

X-Q. 3. How many Monitor double disk drills did you ever sell; any?

A. Sold a few Monitor double disks.

X-Q. 4. When did you begin selling Monitor double disks?

A. In 1900.

X-Q. 5. When did you sell the last Monitor shoe drill?

A. In 1901.

X-Q. 6. Have you sold any Monitor shoe drills in that territory since?

A. No, sir, not from Lamberton.

X-Q. 7. Who handles the Monitor shoe drills there now?

A. Nobody.

X-Q. 8. Who handles the Monitor disks?

A. Nobody.

X-Q. 9. When did you first learn of the Dowagiac shoe drill?

A. At the time I was in Lamberton. Of course I heard before that of the drills.

X-Q. 10. What did you hear about them before?

A. The name. I heard of the name.

X-Q. 11. When did you first see a Dowagiac shoe drill to know what it was?

A. I seen them in New Ulm, Minnesota.

X-Q. 12. When?

A. Before that; some years before.

X-Q. 13. Was you in business there at New Ulm?

A. No, sir.

X-Q. 14. Did you ever try to purchase any Dowagiac shoe drills?

A. No, sir.

X-Q. 15. Who handled them in competition with you?

A. At Lamberton?

X-Q. 16. Yes.

A. F. H. Retzlaff.

X-Q. 17. How far is Lamberton from New Ulm?

A. About 43 miles west.

X-Q. 18. Did Retzlaff have a place of business at Lamberton?

A. A branch store.

X-Q. 19. What other shoe drills have been handled there since you have been in business there at Lamberton?

A. The VanBrunt and Tiger.

X-Q. 20. What kind of a spring pressure device did the Tiger have on it, if you remember?

A. I don't remember.

X-Q. 21. Which drill has been the most popular there, as far as you have observed?

A. The Van Brunt.

X-Q. 22. How many VanBrunt drills were sold there, do you think?

A. Why, they had the lead of the trade there at Lamberton.

X-Q. 23. You don't know how many have been sold there during the season?

A. No.

X-Q. 24. Who handles the VanBrunt?

A. At that time Gebhart & Roth.

X-Q. 25. What years have they handled the VanBrunt there?

A. I think up to 1904.

X-Q. 26. When did they begin, so far as you know?

A. They began—they were about 12 years in business up to 1904.

X-Q. 27. Did you know of them for the past 12 years there?

A. No, sir.

X-Q. 28. All you know of them is since 1900, when you went there; is that right?

A. Since 1900.

X-Q. 29. Are not most of the drills that are sold there now disk drills?

A. Yes, sir, single disk drills.

X-Q. 30. Who handled the Monitor shoe drill that you have referred to as being handled there?

A. Afterwards?

X-Q. 31. No, since 1900?

A. Well, we handled them in 1900 and 1901.

X-Q. 32. You handled them at the same time you did the McSherry; is that right?

A. Yes.

X-Q. 33. Which sold the better Monitor or the McSherry?

A. We had the most sale on Monitor, on account we had the whole line.

X-Q. 34. You mean the McSherry?

A. I mean on the McSherry; sold the most of them.

X-Q. 35. You sold more of the McSherry than you did of the Monitor; is that right?

A. Yes, sir.

X-Q. 36. Which brought the best price, the McSherry or the Monitor?

A. The same.

X-Q. 37. Which did you pay the most for?

A. The same price.

X-Q. 38. Have you got your contracts here, so that you can offer them in evidence, so we can see just what you paid?

A. No, I have not.

X-Q. 39. Do you remember exactly what you paid for the two drills?

A. The 22 shoe was about $92 or $93, less cash discounts and freight.

X-Q. 40. You don't remember what the discounts were?

A. No, I couldn't tell.

X-Q. 41. Nor what the freights were?

A. No.

The reading over and signing of this deposition by the witness was waived.

CHARLES ALDRICH, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Charles Aldrich; live at Henry, South Dakota; my business is hardware and a general line of farm implements; age, 32.

Q. 2. How long have you been in the farm implement business?

A. Eight years last July.

Q. 3. Did you ever buy McSherry shoe drills from the Minnesota Moline Plow Company?

A. I did.

Q. 4. Buy them outright?

A. I did.

Q. 5. According to my figures, you bought about 20 McSherry shoe drills from the Minnesota Moline Plow Company; are those figures about right?

A. About correct.

Q. 6. What was the reputation of the Minnesota Moline Plow Company for its goods in your part of the country?

A. Good.

Q. 7. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, they had a very good representative there, and like a good many new beginners, I bought about the first thing that presented itself.

Q. 8. Do you remember the spring pressure device that was on the McSherry drills?

A. I didn't at that time.

Q. 9. You mean at the time you first arranged to deal in them you didn't know what kind of spring pressure it had?

A. Never saw the drills.

Q. 10. Did you sell the drills yourself to the farmers?

A. I did.

Q. 11. What talking points would you use in trying to effect sales?

A. Oh, I just explained the build of the machine, the reputation the company had for other lines of goods, guaranteed the drill, and sold it on its merits.

Q. 12. That is, the reputation of the Minnesota Moline Plow Company?

A. Yes.

Q. 13. Did you buy these McSherry drills, or sell them, because of the particular spring pressure device that they had on them?

A. I did not.

Q. 14. Did you deal in other kinds of shoe drills at the same time?

A. No, sir.

Q. 15. Have you ever sold any other kinds of shoe drills?

A. I have.

Q. 16. Since selling the McSherry?

A. Yes, sir.

Q. 17. What kinds?

A. The Dowagiac.

Q. 18. Are you selling Dowagiacs now?

A. No, sir.

Q. 19. What kind are you selling now?

A. The Imperial.

Q. 20. Where is that made?

A. Made at LaCrosse.

Q. 21. Is that a shoe drill?

A. No.

Q. 22. A disk drill?

A. Yes, sir.

Q. 23. What kind of soil do you have in your part of the country?

A. We have a light soil; clay sub-soil, sandy loam.

Q. 24. You are not selling the Dowagiac drills now, I understand?

A. No, sir.

Q. 25. Why did you quit selling them?

A. Because they hadn't a disk drill that would work in our soil.

Q. 26. What kind were the Dowagiac drills that you sold, disk or shoe?

A. Both.

Q. 27. Why did you quit selling their shoe drills?

A. We have no trade there any more on shoe drills to speak of. Very light trade on them.

Cross-Examination by Mr. Chappell.

X-Q. 1. When you were selling shoe drills did you ever have a farmer remark that the spring pressure device was defective on the McSherry or the Dowagiac?

A. No, I don't think I ever did.

X-Q. 2. They simply looked at that spring pressure device and said nothing; went to considering some other part of the machine, didn't they?

A. Nothing particular about the spring pressure. Nothing any more than having pressure enough to raise the wheels off of the floor. We had them setting on our sample floor.

X-Q. 3. Did you operate the lever?

A. Yes.

X-Q. 4. And show what the spring pressure would do?

A. Yes.

X-Q. 5. Do you remember that you ever sold a shoe drill without operating the lever?

A. Yes, I think so.

X-Q. 6. That was, some man that knew all about shoe drills, though, wasn't it?

A. Well, we explained every feature of the drill, from the nature of our business.

X-Q. 7. Almost invariably when you started in to sell a drill you would show them the operation of the lever and the spring, wouldn't you; that would be about the first thing?

A. Yes. We had one wheel up off of the floor, and would show them the different ways of raising the machine out of the ground off from the floor. The mechanism of the whole machine, particularly the frame, and a well built machine.

X-Q. 8. What was there about the frame of the McSherry that you would discuss with the farmers?

A. Well, it is trussed a little heavier than the Dowagiac, quite a little. It had a wood beam at the center, and truss rods underneath, and truss rods in the boxes.

X-Q. 9. Didn't the Dowagiac have the same features as that?

A. No, sir.

X-Q. 10. Who handled the Dowagiac at your town?

A. At that time?

X-Q. 11. At that time, or any time?

A. Nobody.

X-Q. 12. When did you discontinue handling the Dowagiac?

A. Two years ago.

X-Q. 13. Why did you discontinue the McSherry and take up the Dowagiac?

A. Well, a neighboring town there invaded our territory with the Dowagiac drills.

X-Q. 14. Had to have a Dowagiac to meet the competition; is that it?

A. I took it to cut out one drill agency in the town. I knew if I didn't take the Dowagiac there would somebody else get it, and by taking it I cut out one agency. That is, I figured that way.

X-Q. 15. Did you handle other drills at the same time?

A. I did not.

The reading over and signing of this deposition by the witness was waived.

HENRY ROMBERG, a witness produced, sworn and examined on the part of defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Henry Romberg; residence, Sleepy Eye; age, 36; business, farming.

Q. 2. Are you connected with any firm or association at Sleepy Eye?

A. Yes, sir, the Farmers' Warehouse Association.

Q. 3. What does that association deal in, among other things?

A. The buying and selling grain and farm implements.

Q. 4. What is your position with the Farmers' Warehouse Association?

A. I am secretary of the company.

Q. 5. Has that association ever bought and sold grain drills?

A. Yes, sir.

Q. 6. When was that?

A. 1901 and '2.

Q. 7. Who did it buy grain drills from?

A. The Minnesota Moline Plow Company.

Q. 8. What was the reputation of that company in your part of the country for the character of its goods?

A. Good.

Q. 9. According to my figures, the Farmers' Warehouse Association bought some 15 shoe grain drills from the Minnesota Moline Plow Company; are those figures about right?

A. About.

Q. 10. Buy the drills outright, did they?

A. Yes, sir.

Q. 11. What caused your company or association to buy the McSherry drills from the Minnesota Moline Plow Company?

A. Because we bought all our other machinery there, and we bought drills there.

Q. 12. Do you remember the kind of spring pressure device that these McSherry drills had?

A. No.

Q. 13. Did your association buy the drills because of any particular spring pressure device that they had?

A. No, sir.

Q. 14. Did you yourself sell any of these grain drills to the farmers?

A. No, sir.

Q. 15. Did the association deal in other kinds of drills also?

A. Not at that time.

Q. 16. Have they done so since dealing in the McSherry drills?

A. This spring.

Q. 17. What kind this spring?

A. The Fountain City.

Q. 18. Disk or shoe?

A. Disk.

Q. 19. What kind of soil do you have about Sleepy Eye, Minnesota?

A. Black; some light sandy soil.

Q. 20. Do you have any gumbo soil, as it is called?

A. Not that I know of. In fact, I would not know it.

Cross-Examination by Mr. Chappell.

X-Q. 1. What other makes of shoe drills were bought and sold by other dealers at Sleepy Eye that you know of?

A. The Sucker State, Tiger, Dowagiac and VanBrunt.

X-Q. 2. When was the Sucker State bought and sold there?

A. I think it was five or six years ago.

X-Q. 3. Was that a shoe drill?

A. A shoe drill, yes, sir.

X-Q. 4. How many of them that you know of?

A. Two, certain.

X-Q. 5. Who handled the VanBrunt there?

A. John Schroepfer.

X-Q. 6. Disk drills are the principal ones sold there now, aren't they?

A. At present, yes, sir.

X-Q. 7. When did you first hear of the Dowagiac shoe drill?

A. Five or six years ago.

X-Q. 8. How long have you lived at Sleepy Eye?

A. I was born there. Not exactly in the city, but within a few miles of it.

X-Q. 9. How long have you been interested in farm implements?

A. Interested with the Farmers' Warehouse Association since 1896.

X-Q. 10. Is that an association of farmers?

A. Yes, sir.

X-Q. 11. Did they ever buy any Dowagiac shoe drills?

A. No, sir.

X-Q. 12. What is the most popular shoe drill at Sleepy Eye, and what has been the most popular since you have been in business there?

A. Well, I think the Tiger and the VanBrunt are the most popular. Quite a number of Dowagiacs sold, too.

X-Q. 13. What sort of spring pressure was on the Tiger that you know of?

A. The Tiger? A flat spring.

X-Q. 14. Would you recognize an illustration of it if you should see it?

A. Yes, sir.

X-Q. 15. (Showing witness paper.) I call your attention to that illustration and ask you if that illustrates the Tiger flat spring pressure shoe drill with which you are familiar?

A. Io don't think it is exactly like the one I have got. Mine has got a fork at the end of the spring coming on each side of the shoe.

MR. CHAPPELL. The patent shown the witness is United

States patent No. 672,916, issued April 30, 1901, to J. S. and S. W. Rowell, for seed drill hoe.

X-Q. 16. Did you ever have anything to do with the selling of shoe grain drills to the farmers?

A. No, sir, not until this spring; I have talked with farmers when I knew they wanted to buy; talked them up.

X-Q. 17. When did you first hear of the Dowagiac shoe drill?

A. In the neighborhood of six years ago.

The reading over and signing of this deposition by the witness was waived.

HUBERT G. HILLIESHEIM, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation.

A. Hubert G. Hilliesheim; age, 55; residence, Town of Stark; Sleepy Eye is my post office, Minnesota; occupation, farmer.

Q. 2. Are you connected in any way with the Farmers' Warehouse Association of Sleepy Eye?

A. Yes, sir.

Q. 3. In what way?

A. I am a director of it and a stockholder.

Q. 4. What does that association deal in?

A. Deals in grain and farm machinery.

Q. 5. Did it ever buy and sell shoe grain drills, among other things?

A. Yes, sir.

Q. 6. Who did it buy them from?

A. The Minnesota Moline Plow Company.

Q. 7. What is the reputation of the Minnesota Moline Plow Company up there as to the character of its goods?

A. Very good.

Q. 8. Did the Farmers' Warehouse Association buy other things from the Minnesota Moline Plow Company also?

A. Yes, sir.

Q. 9. What kind of things?

A. Plows, gang plows, cultivators, and I think we bought wagons of them too once; corn planters.

Q. 10. According to my figures the Farmers' Warehouse Association at Sleepy Eye bought about fifteen shoe grain drills from the Minnesota Moline Plow Company; are those figures about right, as you recall it?

A. Pretty close. Probably not quite. I think it is a couple less.

Q. 11. What caused your association to buy shoe drills from the Minnesota Moline Plow Company?

A. Because we bought all our other goods from them and we didn't want to deal with so many companies.

Q. 12. Those were McSherry shoe drills I believe?

A. Yes, sir.

Q. 13. Do you remember what kind of spring pressure device they had on the shoes to press them to the ground?

A. Oh, I have seen it, but I could not describe it, because I showed them to a couple of people there the first year we had them, and that is about all I ever looked at them.

Q. 14. Did you have anything to do with the buying of these drills?

A. Yes, sir.

Q. 15. Did the particular kind of spring pressure device that was on them cause your association to buy these McSherry drills from the Minnesota Moline Plow Company?

A. No, sir.

Q. 16. Did you ever sell any of these drills to the farmers?

A. No, I only showed them; I never sold them.

Q. 17. What other kinds of shoe drills have been bought and sold in your part of the country?

A. Oh, a good many. The Van Brunt, Sucker State, the Tiger and the Kentucky.

Q. 18. What particular make of shoe drills do you consider

has the largest sale in your part of the country, or did have during the time that you were dealing in these McSherry drills?

A. It is hard to state. I think the Van Brunt has sold as many as any of them; that is what I think.

Q. 19. The Van Brunt has a coil spring pressure device, does it?

A. Yes, sir.

Cross-Examination by Mr. Chappell.

X-Q. 1. Who is the Van Brunt agent?

A. I don't know who is now. Mellenheim & Schoepfer was the agent.

X-Q. 2. Who is the agent for the Sucker State shoe drill?

A. The Sucker State; that used to be Mat Hilliesheim.

X-Q. 3. The Sucker State shoe drills?

A. Yes, sir.

X-Q. 4. How many shoe drills of the Sucker State brand were sold there that you know of?

A. I know that two were sold because I bought them myself.

X-Q. 5. Do you know of any others?

A. Yes.

X-Q. 6. How many?

A. Oh, I couldn't tell how many. There were some sold.

X-Q. 7. When?

A. Well, that must have been five—I bought one five and one six years ago.

X-Q. 8. What kind of a spring pressure device was there on them?

A. A coil spring, a long coil spring which was running over a flat rod; you couldn't set it; put more pressure on.

X-Q. 9. What size of drills did you buy?

A. One 20 and one 22 shoe; 10 and 11 feet wide.

X-Q. 10. What other shoe drill did you ever use?

A. That is the only kind I used.

X-Q. 11. What shoe drills did you use before you bought the Sucker State?

A. I used a seeder.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. What kind of spring pressure device did you say was on the Sucker State shoe drill?

A. A coil spring.

R-D. Q. 2. Around a flat rod?

A. Yes.

R-D. Q. 3. Was that rod standing in a vertical or in a slanting position?

A. It was slanting a little, but not much.

R-D. Q. 4. Almost straight up?

A. Yes, almost straight up.

The reading over and signing of this deposition by the witness was waived.

The further taking of testimony in this matter at Minneapolis was here adjourned until Wednesday, August 30, 1905, to permit the examination of witnesses at Fargo.

Testimony on the part of the defendants, taken before George F. Hitchcock, Jr., Special Master in Chancery, at Fargo, North Dakota, on the 29th day of August, 1905, by agreement of parties.

Present on behalf of the defendants Thomas A. Banning, Esq., and on behalf of the complainant, Fred. L. Chappell, Esq. Thereupon the following proceedings were had, viz:

FRED TIEDT, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Fred Tiedt; 40 years old; residence, Argyle, Marshall County, Minnesota; business, general merchandise and farm implement dealer.

Q. 2. What is the name of your firm, if there be one?

A. Fred Tiedt is the name of the firm. My father's estate is interested.

Q. 3. It used to be Tiedt & Platt, did it not?

A. Yes, sir.

Q. 4. What kind of business did the firm of Tiedt & Platt carry on?

A. General merchandise and farm implements.

Q. 5. A general line of farm implements?

A. Yes, sir.

Q. 6. Did that include grain drills?

A. Yes, sir.

Q. 7. What kind of grain drills did your firm handle?

A. At that time, Tiedt & Platt?

Q. 8. Yes.

A. The McSherry drill.

Q. 9. Who did you buy that from?

A. The Minnesota Moline Plow Company, Minneapolis, Minnesota.

Q. 10. Did you buy them outright?

A. Yes, sir.

Q. 11. According to my figures the firm of Tiedt & Platt bought from the Minnesota Moline Plow Company ten McSherry shoe drills; is that about the correct figure?

A. Yes, sir, I think it is.

Q. 12. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of their goods, responsibility, etc.?

A. Very good.

Q. 13. About when was it that you bought these McSherry shoe drills from the Minnesota Moline Plow Company?

A. I have got no date of that. Sometime between February, 1895, and March 1898. I only recollect that as the partnership. That is the only way I have of fixing those dates.

Q. 14. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Buying part of my other implements from them. I hadn't handled any other drill for a number of years, and bought them merely because they handled them at that time I suppose. Their salesman had them for sale and offered them, and we put in a line of them. They were the first line I had put in for a number of years previous to that time.

Q. 15. At that time were you handling the Minnesota Moline Plow Company's goods generally?

A. Yes, sir.

Q. 16. Do you remember the kind of spring pressure device that these McSherry drills were equipped with?

A. Yes, sir.

Q. 17. Did you buy the McSherry shoe drills because of that particular kind of spring pressure device?

A. No, sir.

Q. 18. Or what was the fact?

A. I bought them principally because they handled them, and the first I bought, I bought them to help fill out the car at that time, as I wanted to handle a drill, and that was the drill that they handled. I don't think at that time I investigated any other drills particularly. That is my recollection of it now.

Q. 19. What if any particular attention did you pay to the spring pressure device for the shoes?

A. To be real candid I didn't pay any attention to the spring at all.

Q. 20. Were you acquainted with the Dowagiac shoe drills at that time?

A. Yes.

Q. 21. You may state if you knew the kind of spring pressure device that the Dowagiac shoe drills were equipped with at the time that you began to handle the McSherry shoe drill.

A. No, sir, I did not at that time; not at the beginning.

Q. 22. Did you ever handle any other kind of shoe drills besides the McSherry?

A. Yes, sir.

Q. 23. Along during the same time?

A. No, sir, before and since.

Q. 24. What kind did you handle before?

A. The Van Brunt drill, manufactured by the Van Brunt Horicon people.

Q. 25. And what kind of shoe drills did you handle after you quit handling the McSherry?

A. The Van Brunt.

Q. 26. What kind of a spring pressure device for the shoes did the Van Brunt drills have?

A. What they term a coil spring pressure.

Q. 27. What kind of soil obtains in your part of the country around Argyle?

A. Principally heavy clay loam.

Q. 28. Do you have any of the soil called gumbo?

A. Yes, sir.

Q. 29. Is there much of that soil in your part of the country?

A. Yes, sir, there is.

Cross-Examination by Mr. Chappell.

X-Q. 1. When did you begin handling the Van Brunt drill?

A. March, or about March, 1903.

X-Q. 2. Did you ever refer to the spring pressure device on the Van Brunt drill when you were selling it?

A. No, sir, I don't think I did.

X-Q. 3. What features or things did you refer to about the Van Brunt drill in making sales?

A. Principally as regards their feed; the force feed was one of the principal features.

X-Q. 4. The force feed is quite a common feed on all grain drills in your part of the country, isn't it?

A. Yes, sir. Some of them have higher or lower gear, that is, regarding force.

X-Q. 5. What other features did you refer to in selling th Van Brunt?

A. As regards the levers which lessened the neck pressure on the horses. Two levers that are fastened to each tongue that tilt the load; raise and lower the shoe pressure at the back and so take the pressure away from the horses' necks.

X-Q. 6. In selling a Van Brunt drill what was the first thing that you would do with the machine in showing its operation?

A. Well, principally referred to the way it was built, and its strength, and regarding the condition of the frame and wheels perhaps, the material, etc.

X-Q. 7. Didn't the adjustment of the front end of the shoes have something to do with their passing over trash?

A. I don't think they did at that time. I think they did later on.

X-Q. 8. When was this that you was just referring to?

A. Before I handled the McSherry; sometime between 1893 and 1898.

X-Q. 9. Why did you discontinue the McSherry and take up the Van Brunt?

A. The gentleman that was in partnership with my father and I objected to handling machinery, and we discontinued handling it for a term of two or three years I guess; three or four years.

X-Q. 10. And then when you took up the matter somebody else was handling the McSherry was there?

A. No, sir. The McSherry was not handled in the village at that time, or any time previous to 1898, or 1895 I should say.

X-Q. 11. When did you first learn of the Dowagiac shoe drill?

A. I think in 1888 or 1890 when I lived in Polk County.

X-Q. 12. And when did you first learn of the Dowagiac shoe drill which has the parallel rod spring pressure on the shoe?

A. I couldn't say exactly as to the year. Sometime after I

handled the McSherry drills. I never paid enough attention to it to notice it.

X-Q. 13. What was the reputation of the Dowagiac shoe drill in the territory where you was familiar with it?

A. Now, or at that time?

X-Q. 14. At that time.

A. It was very good at that time.

X-Q. 15. Any reference made to the Dowagiac shoe drills when you was selling other makes to farmers by the way of comparison?

A. By the farmers to me, or me—

X-Q. 16. By the farmers to you or by you to the farmers.

A. I don't think there was by me to the farmers. I think the farmers mentioned them sometimes when I was selling the McSherry drill.

X-Q. 17. Did they mention any objections to the construction of the Dowagiac shoe drills?

A. No, I don't think they did, except sometimes some preferred a coil spring drill.

X-Q. 18. They did discuss the spring pressure then somewhat?

A. Yes, sir.

X-Q. 19. It was always one of the things discussed in making sales of a drill, wasn't it?

A. No, not necessarily. It was sometimes.

X-Q. 20. Well, most always that would be mentioned, wouldn't it?

A. No, I don't think so. I don't think it would be generally. I think they might mention it sometimes. Some parties would mention it.

X-Q. 21. Who solicited your order for the McSherry drills?

A. What person; what salesman?

X-Q. 22. What person, yes.

A. If I remember rightly it was Mr. Blenkhorn, an English gentleman. If I remember rightly it was he.

X-Q. 23. What did he advance about it as an inducement or a reason for your taking it up?

A. Well, now, I couldn't say as to that. He was quite a fluent talker, and had quite a good many reasons perhaps, I couldn't say as to that. He mentioned it being a good drill.

X-Q. 24. Did he say it was as good a drill as the Dowagiac?

A. I don't recall that he did. He might have said that. I would not recall it. Would not be able to.

X-Q. 25. What prices did you pay for the Van Brunt drill?

A. At the time I bought them?

X-Q. 26. At any time.

A. Well, they run around about $66 for a 17 shoe drill, and an advance of $5 a shoe on the list to a 20 and 22, and there is a discount of ten per cent., if I remember rightly, from that. I can't tell exactly, but that is approximately.

X-Q. 27. You haven't got your contract here?

A. No, sir, I have not. It is in the city here.

X-Q. 28. How many Van Brunt drills did you sell altogether?

A. I would not be able to say that from memory. Some years we sold 18 or 20, and some years not over 8 or 9. Some years as low as 6 I think, one year—this is the Van Brunt you speak of, is it?

X-Q. 29. Yes.

A. Yes, sir.

X-Q. 30. Who was your principal competitor in the grain drill business?

A. At Argyle?

X-Q. 31. Yes.

A. Now?

X-Q. 32. During this period.

A. During the period I sold the Van Brunt?

X-Q. 33. The Van Brunt and the McSherry drills.

A. During the period of the McSherry, a firm by the name of Olson & Holan, and during the time I have sold the Van Brunt they were part of the time—Powell, Wood & Company had a branch there. They are located at Warren, Minnesota. They were the successors of Olson & Holan.

X-Q. 34. What make of shoe grain drill did they handle in competition with yours?

A. Olson & Holan at the time I sold the McSherry handled the Dowagiac drill, and Powell & Wood handled the Kentucky drill and the Haworth, and they handled some other kind, but I am not familiar with the name now. The Kentucky I think.

X-Q. 35. Which one was the principal one that sold in competition with you?

A. The Kentucky. There was also another drill handled in town.

X-Q. 36. The Kentucky had a broad, flat, blade spring that applied pressure to the shoe, did it not?

A. Why, I really can't tell. I never examined it. I couldn't say about that. I rather think it had, but I don't believe that I would be positive on that point. I rather think it did have a flat spring.

X-Q. 37. In selling the McSherry shoe drill, did you ever refer to the spring pressure device?

A. No, sir, I did not.

X-Q. 38. Didn't even remark that it was a good one?

A. No, sir, I don't think I did.

X-Q. 39. Didn't you frequently remark that it had the same spring pressure as the Dowagiac?

A. No, sir. I didn't discover it until about two years, that it did have the same. I didn't pay much attention to the spring.

X-Q. 40. You didn't have much to do with making the sales, or did you?

A. Yes, sir, I was the most active one of any of us in selling them. My partner was not very active in business matters.

X-Q. 41. Disk drills are the drills now used, are they not, principally?

A. The last years they have been principally, but not at that time we didn't sell any disk drills.

X-Q. 42. How many Van Brunt drills did you sell in the year 1901, of the shoe variety, as distinguished from disks?

A. Well, I should judge about twelve. That would be only approximately.

X-Q. 43. How many disks?

A. I never sold any disk drills at all, in those years. They have only come in the last two years in our particular community.

X-Q. 44. How many do you think you have sold in 1902?

A. Well, perhaps the same number, or about the same. They would run in sales from about 9 to 20. Possibly a few more in 1902.

X-Q. 45. Did the Haworth shoe drills cut much of a figure?

A. No, sir, they did not.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

JOHN R. McKINNON, a witness produced, sworn and examined on the part of defendant, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. John R. McKinnon; 56 years old; I live in Crookston, Minnesota; at the present time I am not in business. They call me a gentleman of leisure I suppose.

Q. 2. You are retired from business now, are you?

A. Yes, sir, retired from business.

Q. 3. Did you ever deal in agricultural machinery of any kind?

A. Yes, sir, I handled agricultural implements.

Q. 4. For about how long?

A. Twenty years.

Q. 5. There in Crookston?

A. Yes, sir.

Q. 6. Or in that neighborhood?

A. Right in Crookston.

Q. 7. Did you ever sell any grain drills of any kind?

A. Yes, sir.

Q. 8. Did you ever sell any McSherry shoe drills; shoe grain drills?

A. Yes, sir, I did.

Q. 9. Who did you buy them from?

A. The Minnesota Moline Plow Company of Minneapolis.

Q. 10. Did you buy them outright?

A. Yes, sir.

Q. 11. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of its goods, its responsibility, etc.?

A. It was good.

Q. 12. According to my figures you bought about in the neighborhood of twenty McSherry shoe drills from the Minnesota Moline Plow Company; is that about the right figure?

A. I think that is about right. I don't remember just exactly the number.

Q. 13. What caused you to buy the McSherry shoe drill from the Minnesota Moline Plow Company?

A. Well, they were cheaper; lower priced than any other drill that I knew of at the time.

Q. 14. Do you remember what kind of a spring pressure device there was on those drills to press the shoes to the ground?

A. Well, I do not. I don't remember that.

Q. 15. Did you buy the drills because of any special spring pressure device that they had?

A. No, I didn't.

Q. 16. Did you sell these McSherry drills yourself to the farmers?

A. Yes, sir.

Q. 17. What talking points did you have in making sales to the farmers; what particular features, if any, did you call attention to?

A. Well, it is some time since I sold those drills. It is pretty hard to remember just every point. I don't remember any particular, special point, any more than their general qualities, as I would

pick out some things about them. I don't remember distinctly any particular thing.

Q. 18. Did you ever sell any other kind of shoe drills besides the McSherry?

A. Yes, sir.

Q. 19. Before or after selling the McSherry?

A. Before.

Q. 20. What kind of shoe drills did you sell before handling the McSherry?

A. The Dowagiac.

Q. 21. Have you sold any kind since handling the McSherry?

A. I have sold some others at the same time that I had the McSherry, I think, some other drills, and after.

Q. 22. About what years did you handle the McSherry, as you remember?

A. I think it was in 1898. I think it was in 1898 or 1899. I am not positive; 1898 or 1899.

Cross-Examination by Mr. Chappell.

X-Q. 1. What other shoe grain drills were you handling at the same time you handled the McSherry?

A. I sold some Champions.

X-Q. 2. The Richmond Champion?

A. Yes, sir.

X-Q. 3. Any other make?

A. Yes, I sold a few Buckeyes.

X-Q. 4. The Buckeyes didn't cut much figure, though, did they?

A. Well, some people wanted them. There wasn't as many of them sold as there was of the others.

X-Q. 5. How many Buckeyes did you sell?

A. I forgot now just exactly how many.

X-Q. 6. Do you think you sold three?

A. Yes, I sold more than that. I just forget the number, though.

X-Q. 7. Think you sold five?

A. Really I couldn't tell you how many. I know I sold some Buckeye drills. Some people called for them and I had to have them; some particular thing about them that they wanted them for.

X-Q. 8. What was the particular thing; do you remember?

A. That caster wheel behind that carried—there was that wheel behind that took the weight of the tongue behind. I remember the caster wheel distinctly. They wanted it on that account.

X-Q. 9. What grain drill did you handle after you handled the McSherry, of the shoe variety?

A. I didn't handle any. I quit business. I sold out in 1900 so I didn't handle any after that.

X-Q. 10. When did you handle the Dowagiac shoe drill?

A. I think I handled the first of them either 1886 or 1887; I was the first man that handled any of them up in that country.

X-Q. 11. And when did you first have the Dowagiac drill with the rod spring on it for applying pressure to the shoe?

A. 1888, if my memory serves me right. Either 1887 or 1888. The first I handled there was no spring at all. I don't remember whether it was the second year that they had the spring instead of the weight.

X-Q. 12. Did you ever refer to the spring on the Dowagiac in selling it?

A. Yes, I did. I referred to the spring on the Dowagiac in selling it.

X-Q. 13. When you came to sell the McSherry shoe drill I suppose it was sufficient to mention that it had a spring like the Dowagiac, wasn't it?

A. I don't know that. At that time I don't think that was taken into acount much. At that time the pressure on all of them was so universal, at least almost all drills used some kind of spring pressure, that I don't remember laying any particular stress on the spring.

X-Q. 14. Well, if the spring pressure was like the Dowagiac

there was no need of discussing it, was there? It was all right, wasn't it?

A. Well, I don't think there was any talk about spring pressure.

X-Q. 15. If the spring pressure they used was like the Dowagiac they knew it was all right, didn't need to discuss it; wasn't that it?

A. I don't know. I wouldn't say about that particular thing. I really don't remember of any particular point of discussion on the drills.

X-Q. 16. Well, the shoe drills were not very satisfactory until some kind of a spring pressure was put on, were they?

A. Well, it wasn't on account of the spring that we had the most trouble with them.

X-Q. 17. What did give you the most trouble?

A. Getting them introduced. Getting the farmers to let go of the seeders, broad-cast seeders, instead of using the drill. That was the greatest trouble we had.

X-Q. 18. Who handled the Dowagiac drills in competition with you after you discontinued the Dowagiac?

A. Larson & Carpenter.

X-Q. 19. Who was your principal competitor in the sale of shoe drills during the period you handled the McSherry and these other makes?

A. I think N. P. Stone was the hardest competitor I had.

X-Q. 20. What drill did he handle?

A. The Van Brunt & Davis.

X-Q. 21. When did they handle the Van Brunt & Davis shoe drill?

A. Along about that time that I was in business. Well, along in 1888, 1890, 1891 or 1892 there.

X-Q. 22. The time that I refer to is when you was handling the McSherry drill, which you didn't handle until later?

A. Well, that would be in 1898; 1897 and 1898.

X-Q. 23. What shoe drill was your principal competitor then?

A. Well, I know that N. P. Stone was my strongest competitor. Now, I am not going to say as to shoe drills, but he was my strong-

est competitor there in the implement business.

X-Q. 24. But wasn't your grain drill competition the Dowagiac drill at that time?

A. Well, Larson & Carpenter handled them.

X-Q. 25. Yes, but was not that the strongest competition in the grain drill trade in your business?

A. I didn't notice particularly. No, I don't think it was.

X-Q. 26. Was Stone handling the Van Brunt & Davis shoe drill at that time?

A. He must have been, yes. That is the drill he handled.

X-Q. 27. How many would you estimate that he sold in the year 1898?

A. I don't know. I never have known how much he did sell. I know he put out quite a number.

X-Q. 28. You don't know how much business he did do on grain drills, but you think he was your strongest competitor; is that it?

A. Well, I know that he sold a good many, but as to the number I don't know. I am not positive.

X-Q. 29. How many do you estimate that Larson & Carpenter sold of the Dowagiac drills each year?

A. Oh, I suppose from Crookston they might have sold forty.

X-Q. 30. Each year?

A. Yes. From twenty to forty.

X-Q. 31. How many did you sell of the McSherry each year?

A. Well, I don't think that I handled the McSherry excepting one year. I sold forty or fifty, not of the McSherry, but of the different kinds. Both together.

X-Q. 32. How many would you think that Stone sold of the Van Brunt & Davis drill?

A. I am not positive; I should think somewheres about the same, thirty-five or forty; I am not positive.

X-Q. 33. Where was the Van Brunt & Davis drill built, if you know?

A. I think it is built in Wisconsin somewhere. I don't know now. I am not positive.

X-Q. 34. You didn't concern yourself particularly about the quality and character of the McSherry drill when you noticed that the Minnesota Moline Plow Company were handling it, did you?

A. Yes, I noticed the quality. It looked all right. It was a good looking drill, and the price was in its favor.

X-Q. 35. Was it regarded as a high-grade drill or a low-grade drill?

A. A high-grade drill.

X-Q. 36. Any drills of higher grade in your territory than the McSherry?

A. I didn't admit of any at the time I was selling them.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. What was the character of the soil in your part of the country?

A. Some heavy soil; a heavy clay soil. There was some light sand soil; light, sandy loam. There are several different kinds of soil around Crookston.

R-D. Q. 2. Did you have any soil called gumbo?

A. No, I don't think we had. I didn't know that we had any gumbo soil there.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

JOHN J. MAHONEY, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. J. J. Mahoney; Langdon, North Dakota; age about 44; my occupation is farming and real estate and loans.

Q. 2. Did you ever sell agricultural machinery?

A. Yes.

Q. 3. What was the name of the concern at the time you was handling agricultural machinery?

A. The Langdon Implement Company.

Q. 4. Are you still connected with that company?

A. No, sir.

Q. 5. Did the Langdon Implement Company sell grain drills, among other things?

A. Yes, sir.

Q. 6. What kind of grain drills?

A. They sold the Peoria, the McSherry, and the Fountain City. I think that was it.

Q. 7. Who did they buy their McSherry drills from?

A. The Moline Plow Company.

Q. 8. The Minnesota Moline Plow Company?

A. The Minnesota Moline Plow Company.

Q. 9. Buy them outright?

A. Yes, sir.

Q. 10. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of its goods, its responsibility and otherwise?

A. Good.

Q. 11. According to my figures the Langdon Implement Company bought something over eighty McSherry shoe drills from the Minnesota Moline Plow Company; state if those figures are about right, if you remember.

A. I couldn't tell you. I tried to find out from the books before I came down, but I couldn't tell, because we didn't keep any drill account, and it was just charged in invoices. So I couldn't tell the number. I know that I bought quite a number from them, but I don't know the number.

Q. 12. Would you think that eighty was too many?

A. I couldn't say.

Q. 13. What caused your company to buy the McSherry shoe drills from the Minnesota Moline Plow Company, if you remember?

A. Yes, sir. We were starting business, and I was president

and manager of the company, and went to Minneapolis to buy goods, and wanted to do business with the Moline Plow Company.

Q. 14. Did you handle other goods of the Minnesota Moline Plow Company?

A. Yes, sir, handled their full line of goods. Implements.

Q. 15. Do you remember the kind of spring pressure device that was on the McSherry shoe drills?

A. I remember—I couldn't tell just exactly now the device. I remember that device, but I couldn't state just exactly.

Q. 16. Please state whether you bought McSherry shoe drills because of any particular spring pressure device that they were equiped with.

A. No, sir. No, we didn't.

Q. 17. Did you yourself sell McSherry shoe drills to the farmers?

A. Yes, sir.

Q. 18. What particular points, if any, would you talk to the farmers in effecting or making sales?

A. Well, I suppose that there would not be a part but what I would talk of. I suppose I talked all parts of the machine.

Q. 19. Any one point more than the other?

A. No, sir, not without the farmer had reference to a point, and that would be very seldom.

Q. 20. What other kind of drills were sold in competition with the McSherry drills while your company was handling them?

A. There was the Van Brunt & Wilkins, the Monitor, the Dowagiac, the Kentucky, the Sucker State, and might be some others. Yes, there was. There was another drill; I disremember the name of it now.

Q. 21. You may state what the fact is as to whether you were enabled to sell McSherry shoe drills because of the particular spring pressure device that they had.

A. Why, we sold them, but I don't know—I couldn't tell why we sold them.

Q. 22. Did you dwell upon the kind of spring pressure device specially in order to make sales?

A. No, sir.

Q. 23. I believe you have said that you talked of or called attention to the different points of the drill; is that it?

A. I certainly did. I don't remember just now what points it would be, but I am sure I would call attention to the different points.

Q. 24. What kind of soil do you have around Langdon, North Dakota?

A. Black loam.

Q. 25. Do you have what is called gumbo soil?

A. No, sir.

Cross-Examination by Mr. Chappell.

X-Q. 1. When did you first learn of the Dowagiac shoe drill with the rod pressure on the shoe?

A. Well, now, I can't state when it was.

X-Q. 2. Was it before or after you handled the McSherry?

A. I think it was before.

X-Q. 3. You knew if a shoe grain drill had a spring pressure device like the Dowagiac that it was all right, didn't you, so far as the spring pressure was concerned?

A. I didn't know.

X-Q. 4. Didn't know anything about it?

A. No.

X-Q. 5. Why did you desire to do business with the Minnesota Moline Plow Company?

A. They had a reputation of having good goods, and their plows was well advertised in our country.

X-Q. 6. Then you felt that if you bought your goods from the Minnesota Moline Plow Company that they were goods that would be properly selected for the territory in which you was at work; was that right?

A. Yes, sir.

X-Q. 7. Didn't have any doubt about their judgment in select-

ing a good grain drill, or plow, or what not, that would fill the bill, so that you would have no trouble in making sales?

A. No, sir.

X-Q. 8. What was your principal competition while you were handling the McSherry shoe drill?

A. It was all hard competition.

X-Q. 9. Wasn't any one stronger than another?

A. Yes. One year, I disremember the year, but there was one year that the Dowagiac was the strongest competition.

X-Q. 10. Who was handling the Dowagiac at that time?

A. As near as I know it was the Dowagiac Manufacturing Company.

X-Q. 11. Who is their agent there now handling shoe drills?

A. The McMillen Machine Company.

X-Q. 12. Wasn't the Kentucky also strong competition?

A. All machines were strong competition, but—

X-Q. 13. Who handled the Kentucky there?

A. James McPhail.

X-Q. 14. Who handled the Van Brunt & Wilkins?

A. Mike Kelly.

X-Q. 15. Who handled the Monitor shoe drill?

A. The Monitor shoe drill was handled by the McMillen Machine Company, or D. H. McMillen, I think it was at that time.

X-Q. 16. How many Monitor shoe drills do you think were sold per annum in the territory?

A. I couldn't tell. I wouldn't have any idea.

X-Q. 17. When was the last Monitor shoe drill sold there that you know of? The Monitors have been double-disk drills for some time, have they not?

A. Yes, sir.

X-Q. 17*a*. Who handled the Sucker State shoe drill?

A. The James McMillen Company.

X-Q. 18. Did that cut much figure?

A. There was quite a number of them sold.

X-Q. 19. What was the feature that enabled them to be sold?

A. I couldn't tell you.

X-Q. 20. You didn't get onto the points of competition very close; you knew they were selling drills, but didn't pay much attention to the details?

A. No, sir.

X-Q. 21. Why was the Dowagiac strong competition; have you any idea?

A. Yes, sir. Mr. McPhail sold them one year, or sold them all the time up to this certain year, and the traveling man had some trouble with McPhail; for some reason he wouldn't make a contract; McPhail delayed him; wouldn't make a contract with him in the spring, and he seemed to be mad about it, and he came to me and wanted me to buy a carload of drills, and we had our stock of drills in at that time; I told him I would buy half a car, and he wouldn't put them in without he could sell a car, and they put them in themselves.

X-Q. 22. Do you know what point they talked in selling their drills?

A. I never was there. Never was near them when they were selling them.

X-Q. 23. What year was that that the Dowagiac Company handled them themselves, do you think?

A. I think it was 1899. I wouldn't be positive, but to the best of my knowledge it was 1899.

X-Q. 24. Who was the traveling man that you negotiated with relative to the Dowagiac drills?

A. I don't just remember the name. I would remember the name if I heard it, I think.

X-Q. 25. Was it Mr. Swayne?

A. Yes, sir.

X-Q. 26. The gentleman here?

A. That is the gentleman.

X-Q. 27. Have you any idea how many Van Brunt drills were sold per annum?

A. I have not.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. Did I understand you that Mr. McPhail had trouble with the Dowagiac Company so that they refused to sell him drills?

A. No, not that they refused to sell him drills. They had some misunderstanding, and Mr. Swayne told me that he delayed him in making the contract. When it came along in the spring he refused to contract with them because they had some trouble the year before.

R-D. Q. 2. That is, McPhail refused to contract?

A. Yes, sir.

R-D. Q. 3. Was the VanBrunt & Wilkins drills a strong competitor of yours?

A. Yes, sir.

R-D. Q. 4. Did you ever hear that drill also called the VanBrunt & Davis?

A. No, sir.

R-D. Q. 5. That drill was made at Horicon, Wisconsin, was it not?

A. I ain't sure. There was one of them made at Horicon, Wisconsin, but I don't know whether it was the VanBrunt & Davis or the VanBrunt & Wilkins. I don't remember.

R-D. Q. 6. That VanBrunt drill had a coil spring pressure device for shoes, did it not?

A. Yes, sir.

Re-Cross Examination by Mr. Chappell.

R-X Q. 1. You never had anything to do personally with the VanBrunt drill, did you?

A. No, sir.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

ROBERT J. HONEYFORD, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Robert J. Honeyford; age, 34; residence, Bisbee, North Dakota; occupation, harness and implements.

Q. 2. Did you ever deal in agricultural machinery?

A. Yes, sir.

Q. 3. What was the name of your firm?

A. Forbes & Honeyford.

Q. 4. Is that still the name of your firm?

A. Yes, sir.

Q. 5. Did your firm ever deal in grain drills of any kind?

A. Yes, sir, slightly. Always sold a few.

Q. 6. Did you ever buy or sell McSherry shoe drills?

A. Yes, sir.

Q. 7. From what company?

A. The Minnesota Moline Plow Company.

Q. 8. Buy them outright?

A. Yes, sir.

Q. 9. According to my figures your firm bought something over thirty McSherry shoe drills from the Minnesota Moline Plow Company; is that about right?

A. Well, I should think so, although I didn't think there was quite that many. I never have looked it up. I didn't figure that there would be much over twenty. Probably there was that many.

Q. 10. Literally I have thirty-one as the figure.

A. That might be right. I never paid much attention to it.

Q. 11. What was the reputation of the Minnesota Moline Plow Company around your part of the country for the character of its goods, its responsibility, etc.?

A. It was good so far as I know.

Q. 12. What other goods of the Minnesota Moline Plow Company, if any, did your firm handle?

A. We bought our line from them; buggies, wagons, plows, harrows and everything that we used. We bought them all from the Moline Company.

Q. 13. What caused you to buy your McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, I guess it was just because they were handling them. When we started in there our capital was pretty small, and we didn't feel that we were able to divide up our trade; so we just bought right straight along from them; stayed right with that company, and they have always used us right, and just stayed right with them.

Q. 14. Doing business with them still?

A. Yes, sir.

Q. 15. Do you remember the kind of spring pressure device that was used to press the shoes to the ground?

A. Yes, sir, I have got a good idea of what it was like.

Q. 16. Did you buy your McSherry shoe drills because of any particular spring pressure device that they had?

A. No, sir. It was simply because I guess the Moline people were handling them.

Q. 17. Did your firm ever sell any other kind of shoe drills?

A. Why, not during that time, outside of about—I think it was either three or four Sucker State drills that we bought from an implement dealer in Cando. That was the next town to us up there; he got overstocked with those drills some two or three years before that, and we just wanted to help him out a little bit; so we sold three or four of those drills.

Q. 18. During the time that you handled this McSherry drill what kind of shoe drills were sold in that part of the territory?

A. Why, at that time I think there was the VanBrunt and the Monitor. I think those were the only two that were sold there during that time.

Q. 19. Do you remember what kind of a spring pressure device the VanBrunt and Monitor had?

A. I couldn't tell you about the Monitor, but I know about the VanBrunt.

Q. 20. What did it have?

A. Had a coil spring.

Q. 21. Please state the fact as to whether or not the VanBrunt was a strong competitor of yours in your territory.

A. I should say it was.

Q. 22. Did you ever sell any VanBrunts?

A. No, sir—well, not since I went into business for myself. I worked for a concern before I went there that handled the VanBrunt.

Q. 23. What concern was that?

A. That was J. P. Reiton in Gilby, North Dakota.

Q. 24. What was the character of the soil in your part of the country?

A. Where we are now?

Q. 25. Yes, about Bisbee.

A. Oh, it is a pretty good clay soil.

Q. 26. Do you have any soil there called gumbo?

A. Why, there might be a little. I never heard any complaint about it. There might be a little gumbo, or alkali. I suppose the same thing, but there isn't enough to hurt anything.

Q. 27. Did you yourself sell drills to the farmers?

A. Yes, sir.

Q. 28. In selling the McSherry shoe drills to farmers, what particular point, if any, did you talk?

A. Well, I could hardly remember, but after the first year we never put much of our time on the drill, because we felt as though we had a drill that was not a proper machine for a farmer to buy, and we never devoted very much of our time to it.

Q. 29. What was your principal line of business?

A. Why, harness and implements, but we had some trouble with the first McSherry drills we sold, and we never worked much of our time on them.

Q. 30. Had some trouble with them, did you?

A. Well, yes. According to the complaints of the farmers they were heavy on the horses necks, hauled hard, and heavy, and the likes of that, you know.

Q. 31. And so you didn't pay much attention to the selling of drills?

A. No, sir. We didn't put but very little of our time on the drill question.

Cross-Examination by Mr. Chappell.

X-Q. 1. For how long a time did you personally have to do with selling VanBrunt drills?

A. Why, I worked between five and six years for this man Reiton and he sold them there during that time, and I used to work off and on at it. I never sold very many of them.

X-Q. 2. What year was that?

A. Well, I started working for him in the fall of 1892, and quit him in the spring of 1898.

X-Q. 3. What point did you urge in selling VanBrunt shoe drills?

A. I couldn't remember. Probably told them it was a good drill, and the likes of that.

X-Q. 4. Show them anything about any adjusting levers about it?

A. Oh, there was those—I can't remember whether they had those two levers in front at that time or not, but I rather think they had.

X-Q. 5. Did you tell them it was a good drill to pass over trash?

A. I couldn't remember what I did tell them. I never sold very many of them. It would be just a case when Mr. Reiton was away that I sold them.

X-Q. 6. Did you ever have anything to do personally with the Monitor shoe drill?

A. No, sir.

X-Q. 7. When was the last Monitor shoe drill sold down there at Bisbee that you know of?

A. At Bisbee?

X-Q. 8. Yes.

A. Well, now, I could hardly tell. Our competitor there has had it. I couldn't tell you when he sold the last one.

X-Q. 9. Some time ago, wasn't it?

A. Why, I should judge that it would be a couple of years ago anyhow.

X-Q. 10. Monitors are disk drills now, are they not?

A. Yes, the majority of them.

X-Q. 11. Is the Dowagiac shoe drill handled at Bisbee?

A. No, sir.

X-Q. 12. What was the nearest point?

A. Cando or Perth. I don't know whether they handle them at Perth or not. I don't think they do. I think Cando was the nearest point.

X-Q. 13. That was strong competition, was it, the Dowagiac?

A. Well, I don't know. I never bothered very much with it. It was out of our territory. It didn't seem to cut much figure with us.

X-Q. 14. Was the Dowagiac sold at Gilby when you were there?

A. I don't think it was, no. There was this man handled the VanBrunt and the McSherry and the Sucker State, and I think that the next spring, or the spring that I left there, I think there was an elevator man that took the Dowagiac.

X-Q. 15. That was in 1898, was it?

A. Yes. As near as I can remember that was the time the Dowagiac come in there, the spring I left there.

X-Q. 16. Any Dowagiac drills sold in that territory there around Gilby that you know about?

A. Around Gilby?

X-Q. 17. Yes.

A. I didn't know of any at that time.

X-Q. 18. When did you first learn of the Dowagiac drill?

A. Oh, I used to hear quite a little talk about it.

X-Q. 19. What was its reputation, good or bad?

A. Why, I should say good by the way they talked about it.

X-Q. 20. What was the principal thing they had to say about it?

A. Well, I don't know, only it was a long-lived drill. We have had some of our customers tell us that they preferred that above any drill just for the lasting quality.

X-Q. 21. The springs didn't give out on that drill; is that right?

A. I don't know about that. I never paid any attention to it.

X-Q. 22. When did you first see a Dowagiac drill?

A. That is a pretty hard question to answer. I might have seen them lots of times at an agency and not pay any attention to them, but the first that I had heard about them was—oh, it must have been five or six years ago.

X-Q. 23. How long have you lived in North Dakota?

A. Since the fall of 1892.

X-Q. 24. What was your business then?

A. Then I went to work for this implement dealer there at Gilby.

X-Q. 25. Who was it that your concern bought the Sucker State shoe drill from?

A. Drake & Bacon.

X-Q. 26. Did he need to be helped out?

A. Oh, no. He had quite a stock of those drills, and he wanted to get rid of them. I guess he wanted to get out of them too, as near as I can recollect. They had bought some concern out when they started in there and this other concern was loaded with these drills, and he was trying to sell them, and he give us a pretty good deal on these that we sold; so we bought them from him.

X-Q. 27. How many did he have on hand, do you think?

A. As near as I can recollect now he had twenty when he first spoke to us about it.

X-Q. 28. How many McSherry drills did you sell in a year there at Bisbee?

A. Why, I had figured as near as I can recollect that it was from six to eight, but his figures disclose more than that.

X-Q. 29. Never paid a great deal of attention to the details of the drill business anyway, did you?

A. No, sir. We didn't devote much of our time on the drill question.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. When did you learn what kind of a spring pressure device the Dowagiac drill had?

A. Well, I couldn't hardly answer that question. The first drill I seen I guess probably I saw the way the spring was attached.

R-D. Q. 2. Was that before or after you began to sell the McSherry drills?

A. Now, I think that would be after we was selling those McSherrys.

Re-Cross Examination by Mr. Chappell.

R-X Q. 1. Wasn't it mentioned to you when you was buying the McSherry drill that so far as the spring pressure was concerned it was like the Dowagiac?

A. No, I don't remember about that.

R-X Q. 2. Who was the agent that sold you the McSherry, the traveler?

A. Blenkhorn, if I remember right, but if the Moline people had been handling any other drill we would have bought that I guess just the same.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

JOHN HILLSTEADT, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is John Hillsteadt; residence, Fosston, Minn.; my business is general hardware at the present time.

Q. 2. Did you ever deal in agricultural machinery of any kind?

A. Yes, sir.

Q. 3. Did you ever buy and sell any McSherry shoe drills?

A. Yes, sir.

Q. 4. Who did you buy them from?

A. Bought them from the Minnesota Moline Plow Company.

Q. 5. Buy them outright?

A. Yes, sir.

Q. 6. During what years was it that you bought and sold McSherry shoe drills?

A. I think it was in the spring of 1899.

Q. 7. About how many did you buy and sell?

A. That I don't remember. We bought some to fill up a car, and I don't remember how many we did have in there. I think somewheres around eight or ten of them, I guess.

Q. 8. What was the reputation of the Minnesota Moline Plow Company in your part of the country as to the character of their goods, their responsibility, etc.?

A. Good, as far as I know.

Q. 9. Did you buy anything else from the Minnesota Moline Plow Company?

A. Yes, we used to handle their full line, buggies, plows, wagons, harrows and everything they had we handled.

Q. 10. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. We bought them because we wanted to fill up a car with them.

Q. 11. Was there any special feature about them that caused you to buy them?

A. No, sir.

Q. 12. Do you remember the kind of spring pressure device for holding the shoes to the ground that they had?

A. Yes, I do.

Q. 13. Please state what the fact may be as to whether you bought them because of their being equipped with any particular kind of spring pressure device for holding the shoes to the ground.

A. No, we did not buy them for that reason. We bought them just to fill up a car. We had some drills on hand before, but we didn't have quite enough to last out the season; we thought we

could dispose of some more, and we took a few McSherry drills in with the other goods.

Q. 14. What other kind of shoe drills did you sell besides the McSherry?

A. We sold the VanBrunt.

Q. 15. What kind of a spring pressure device did the VanBrunt have?

A. They have got a coil spring.

Q. 16. How long did you sell the VanBrunt shoe drills?

A. I have sold them since the spring of 1899.

Q. 17. Are you still selling them?

A. Not this year. I sold them up until this year, but now I am out of the implement business.

Q. 18. What other kinds of shoe drills were sold in that part of the country?

A. Well, the McSherry, the Dowagiac was sold, the Kentucky, and the Fountain City was sold there, and the Monitor has been sold there.

Q. 19. What is the character of the soil in your part of the country?

A. Well, it is black soil; clay soil.

Q. 20. Any gumbo?

A. No, there is not.

Cross-Examination by Mr. Chappell.

X-Q. 1. Did you sell any of these drills personally?

A. Yes, sir.

X-Q. 2. In selling the McSherry drill what would be the first thing you would do in showing it to the farmer?

A. Oh, first offer them the drill of course for sale; tell them it was a little cheaper drill than the VanBrunt, and that was about all. There was no particular point about them to talk about much.

X-Q. 3. Did you manipulate the levers for applying pressure when you were selling it?

A. Yes, of course we worked them a little; showed them what—

X-Q. 4. Any levers about the McSherry for operating anything else than the spring pressure on the shoes?

A. No, there wasn't any levers except that.

X-Q. 5. What matters would you discuss with the farmers in selling them the VanBrunt drill; the shoe drill, I mean?

A. Well, I always thought the VanBrunt was a better drill than the McSherry, and I talked the VanBrunt more than I did the McSherry. Still, they were higher priced, and some of course wanted cheaper drills.

X-Q. 6. What, if anything, would you operate about the VanBrunt drill in showing it to farmers?

A. Oh, there is different points of advantage in the VanBrunt over the McSherry, to my notion. They had a tilting lever on the pole, and they had a changeable shoe that you could raise up in the front and climb over straw manure and brush and roots and such things as that in the field, that we were talking very strong about the VanBrunt.

X-Q. 7. Ever refer to the spring pressure on the VanBrunt in selling it?

A. Yes, we did.

X-Q. 8. Ever refer to the spring pressure on the McSherry in selling it?

A. We did do that too, but the farmers up there didn't take well on that kind of pressure, because it had a neck bearing on the horses, and for that reason they were hard to sell in our locality, and we had them on hand for years before we could dispose of them too. So the VanBrunt was an easier drill to sell on account of the pressing; it didn't bear on the horses' necks.

X-Q. 9. What was your strongest competition at Fosston?

A. The Kentucky was the strongest one we had.

X-Q. 10. Wasn't the Dowagiac also strong competition?

A. The Dowagiac was sold, quite a few there, some years ago, but now lately it ain't been sold any much.

X-Q. 11. Disk drills are the principal ones sold now, are they not?

A. Yes, mostly disk now.

X-Q. 12. What other drills were there in competition?

A. The Fountain City.

X-Q. 13. When was that in competition?

A. Well, that is there now, and has been for—

X-Q. 14. When did it begin?

A. Oh, it is about six or seven years ago, I think.

X-Q. 15. Shoe drills?

A. They have both kinds, shoe and disk.

X-Q. 16. Did the Fountain City shoe drill cut any figure?

A. Oh, they sold quite a few of them, yes. They are a cheaper drill than either the VanBrunt or the Kentucky; so they sell some of them.

X-Q. 17. They are very low in price, are they?

A. They are lower in price than either one of them, yes, sir.

X-Q. 18. What price did you have to pay for the VanBrunt drills?

A. The VanBrunt drill I believe cost us, with the freight included, about $60, fourteen disk.

X-Q. 19. For a fourteen disk?

A. Yes.

X-Q. 20. Shoe drills is what I was referring to.

A. Well, they are a dollar less, or a dollar and a half. They used to vary a little.

X-Q. 21. A dollar and a half on each marker?

A. No, sir, on the drill.

X-Q. 22. On the drill?

A. It is practically the same price.

X-Q. 23. What sizes did you sell principally?

A. We sell 17 and 15 mostly.

X-Q. 24. Don't sell 22's very much?

A. Well, we sold a few of them, but not very much up in our country.

X-Q. 25. What is the objection to the 22?

A. Oh, there isn't so big farms up there, you know. They don't use such big machines.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. What kind of a spring pressure device did the Fountain City have, if you remember?

A. The Fountain City has something like the VanBrunt. They have got a coil spring pressure.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

JOHN MUNRO, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. John Munro; age, 45; reside at Rolla, North Dakota; I was in the machine business; I sold out two years ago; two years this fall.

Q. 2. What used to be the name of your firm?

A. It used to be Kyle & Munro.

Q. 3. Did your firm ever deal in agricultural machinery?

A. Yes.

Q. 4. What kinds?

A. Well, we used to buy—the first machines we bought were from the manufacturers' syndicate, Minneapolis, until they went out of business, and after that we have dealt principally with the Minnesota Moline Plow Company.

Q. 5. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of its goods, its responsibility, etc.?

A. They were considered good goods.

Q. 6. What different kinds of machinery did you buy from the Minnesota Moline Plow Company?

A. Wagons, buggies, plows, harrows and drills.

Q. 7. Their general line?

A. Their general line.

Q. 8. Were your shoe drills bought outright, or how?

A. Bought outright.

Q. 9. Those were McSherry shoe drills, were they?

A. McSherry, yes, that we bought from them.

Q. 10. According to my figures you bought something over fifty McSherry shoe drills from the Minnesota Moline Plow Company; are those figures about right, as you recollect?

A. That is, between Kyle and myself, yes. Something in that neighborhood. I couldn't tell you. I thought it was about forty or fifty. There was some of them sent back, on account that they were not right built.

Q. 11. You returned some of them?

A. We returned some of them. I returned some.

Q. 12. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, they were a little cheaper than the general run of drills, and we was buying our other goods from them, and in order to get car load rates we put them in.

Q. 13. Do you remember the kind of spring pressure device that the McSherry drills had for pressing the shoes to the ground?

A. The McSherry? They had on their shoe drills a rod, and on the disk they had a spring.

Q. 14. Please state what the fact may be as to whether or not you bought the McSherry shoe drills from the Minnesota Moline Plow Company because of any particular kind of spring pressure device that they had.

A. The first drills that I had from them—the fact is I don't know as I paid any attention what kind of spring pressure was on them, but after I got them up there I seen they were something similar to the Dowagiac.

Q. 15. Did you buy them because of that particular kind of spring pressure device?

A. Well, I couldn't say that I did.

Q. 16. Did you sell drills yourself personally to the farmers?

A. Yes, I sold them personally to the farmers.

Q. 17. What talking points did you use in making sales of these McSherry shoe drills to the farmers?

A. Well, I always had a drill set up there and showed it to them; I generally had a certain class of farmers that done all their dealing with me, and if they wanted a drill they come in and bought it.

Q. 18. Did you lay any particular stress upon any particular feature of the drill?

A. No, I couldn't say that I did. My trade in drills was very light always, very light; I never shoved the drill trade very much.

Q. 19. Did you lay any particular stress on the spring pressure device?

A. I can't say that I did.

Q. 20. Did you also sell other kinds of shoe drills?

A. Yes, I sold other kinds; I sold the Fountain City before I sold the McSherry. The trouble with them was they broke, or the castings kept breaking; and I sold the Van Brunt and the Monitor since; that is, in 1902 I bought Van Brunts and Monitors, and a few in 1901.

Q. 21. Do you remember what kind of spring pressure device the Fountain City and the Van Brunt shoe drills had?

A. The Fountain City and the Van Brunt both had coil spring pressure; I think I sold one or two Kentuckys; two I think.

Q. 22. What kind of shoe drills were mostly sold in your part of the country, if you remember?

A. Well, there was just O'Laughlin, our competition; they sold the Dowagiac and the Kentucky.

Q. 23. You may state whether or not the Van Brunt and Fountain City were also in competition with you?

A. No, I handled them; they were not sold in competition.

Q. 24. When you were not handling them yourself were they not in competition with you?

A. No.

Q. 25. No agent there for them?

A. No.

Q. 26. What kind of soil do you have in your part of the country around Rolla?

A. It is principally black loam, and the southern part, or the southwestern part is sandy.

Q. 27. Do you have any gumbo soil?

A. No, very little.

Cross-Examination by Mr. Chappell.

X-Q. 1. What size of drills are in demand in your territory?

A. I have principally sold 16s and 18s; a few 22s; not a great many.

X-Q. 2. What was the trouble with the McSherry drills that were returned?

A. The feed was no good; they broke.

X-Q. 3. In selling the McSherry drills I suppose it was sufficient to say that the spring on them was like the Dowagiac, wasn't it?

A. I have seen some farmers remark that it was the same as the Dowagiac, and I said yes.

X-Q. 4. You didn't discuss the spring any further after that, did you; after they knew what it was?

A. I never discussed the spring with them much, because I never had a very big drill trade compared to the other parties. Very light.

X-Q. 5. But the spring part was something that didn't require discussion anyway as soon as the farmer would see what it was; is that right?

A. Well, for my part I had better success with the Van Brunt than I had with them; in selling them.

X-Q. 6. What was the things you discussed about the Van Brunt?

A. Well, on account of the lightness of it; a light draft, and just as good a sower I thought; I had better success with it.

X-Q. 7. Ever refer to any adjustments about the Van Brunt in selling it?

A. Why, there was an adjustment in the front there; levers to raise the drill on the heel of the shoe.

X-Q. 8. Was that considered a good feature?

A. Yes.

X-Q. 9. Why?

A. Because it is the heel going down that causes a light draft, instead of the whole shoe going down.

X-Q. 10. Was it a good drill to pass over trash?

A. Yes, it was a good drill for that.

X-Q. 11. Any better than the Dowagiac?

A. Well, I couldn't say that.

X-Q. 12. Did you ever use the Dowagiac drill yourself?

A. I never used it.

X-Q. 13. Ever handle it?

A. Never handled it?

X-Q. 14. Know what the talking points were on the Dowagiac drill?

A. Sir?

X-Q. 15. Did you know what the talking points were on the Dowagiac drill?

A. Well, the Dowagiac got a good run there, and seemed to take well; they did talk their spring pressure there; shoe pressure, I believe.

X-Q. 16. What was the strongest shoe drill in competition?

A. The Dowagiac.

X-Q. 17. The Monitor drills you refer to are principally disk drills, are they not?

A. Principally disks. A few shoes.

X-Q. 18. When was the last Monitor shoe drill sold in your territory that you know of?

A. It was sold in 1902.

X-Q. 19. No Monitor shoe drills on hand now, have you?

A. No.

X-Q. 20. The Fountain City drill is a patented drill, isn't it?

A. Well, I don't know as I could tell; I expect it is.

X-Q. 21. Don't know?

A. I don't know.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. You have spoken about the shoe on the Van Brunt drill; how important do you regard the shoe as a part of a shoe drill; its shape and mode of action?

A. I consider the shoe the most important point on a drill. If you can get the heel down and not the face, the whole face of the shoe, why you get a better running drill. That was one trouble with the McSherry drill; when the pressure come on, the whole face of the shoe went down instead of the heel.

Re-Cross Examination by Mr. Chappell.

R-X. Q. 1. The Dowagiac drill is well up on the heel, isn't it?

A. The Dowagiac drill is well up on the heel.

Re-Didect Examination by Mr. Banning.

R-D. Q. 1. The Dowagiac had a good shoe then, did it?

A. The Dowagiac had a good shoe.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

M. R. O'NEILL, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. M. R. O'Neill; occupation, hardware business; residence, Fargo.

Q. 2. Were you ever in business at Graceville, Minnesota?

A. Yes, sir.

Q. 3. What was your business while at Graceville?

A. Hardware, furniture and implements.

Q. 4. Did you ever deal in shoe drills of any kind?

A. Yes, sir.

Q. 5. What kind?

A. The McSherry.

Q. 6. Who did you buy your McSherry shoe drills from?

A. The Moline Plow Company.

Q. 7. The Minnesota Moline Plow Company?

A. Yes, sir, the Minnesota Moline Plow Company.

Q. 8. Buy them outright?

A. Yes, sir.

Q. 9. According to my figures you bought some twenty-five or twenty-six McSherry shoe drills from the Minnesota Moline Plow Company; are those figures about right?

A. Twenty-five I think is the number; that is my recollection of it now.

Q. 10. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of their goods, their responsibility, etc.?

A. First class; could not be any better.

Q. 11. Did you buy other goods also from that company?

A. Yes, sir, I handled their line, particularly their gang plows; their different makes of plows, including gang plows, harrows and so on.

Q. 12. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

A. Purely and simply on the reputation of the Moline Plow Company, and their guaranty and recommendation.

Q. 13. Do you remember the kind of spring pressure device that was on the McSherry drills?

A. No, sir; I don't believe I could go into detail at the present time and explain it.

Q. 14. Please state what the fact may be as to whether you bought the McSherry drills because of any particular kind of spring pressure device for holding the shoes to the ground?

A. No, sir; it was my first experience in the shoe drill business, and I really didn't know but very little about drills one way or the other, and I bought the drills, as I said before, entirely on the guaranty and representation made by the Moline Plow Company. I didn't ask a question whether they were spiral springs, or flat springs.

The man said, "We guaranty this drill equal to anything on the market," and I bought the drill on those recommendations.

Q. 15. Have you ever sold any other kind of shoe drills than the McSherry?

A. No; that was my first and last experience in the drill business.

Q. 16. What kind of shoe drills were on sale in your part of the country that you had to compete with?

A. Well, let me see; it seems as though that has kind of passed out of my mind; we had the Monitor there; the Monitor was handled there, and I think the J. I. Case—what is their shoe drill; the Buckeye, is it?

Q. 17. The Hoosier.

A. The Hoosier and the Dowagiac.

Q. 18. Were any Van Brunt shoe drills sold?

A. I was just going to add that I think the Van Brunt was also handled there by Mr. Hartnett.

Q. 19. What was the character of the soil around Graceville?

A. Well, that particular year it was very dry and loose, just like ashes.

Q. 20. Any gumbo soil?

A. Well, no, you would hardly call it a gumbo. It is not as heavy a soil as this Red River Valley, but this particular spring it was very dry and loose.

Q. 21. When did you cease to sell the McSherry shoe drills?

A. Well, after I put out those 25, I sold out there that year; that was in 1898, and since then I have not handled any implements.

Q. 22. Did you sell yourself, personally, the McSherry shoe drill to the farmers?

A. I made most of the sales, yes, sir.

Q. 23. What talking points would you use in trying to sell McSherry shoe drills?

A. Why, I don't remember the particular talking points that we used now. I took my cue somewhat of course from the man that

sold me the drills; guaranteed the drills to be equal to anything there was on the market; guaranteed it to do the work.

Q. 24. Did you lay any special stress on any particular point?

A. Not that I remember of now, no, sir.

Q. 25. Any special stress on the kind of spring pressure for the shoes?

A. No, sir.

Cross-Examination by Mr. Chappell.

X-Q. 1. Did you return any of those drills to the Minnesota Moline Plow Company?

A. Yes, sir.

X-Q. 2. How many of them?

A. Twenty-five; all I bought.

X-Q. 3. Why did you return them?

A. Why, there was complaints I believe, the complaint was its dragging stuff along ahead of it; as I said a minute ago, the soil was very dry that year and just like an ash bed, and the shoe, instead of jumping over the stubble and stuff on the ground, would drag it along ahead of it; push it along ahead of it.

X-Q. 4. What year was that?

A. 1898.

X-Q. 5. Did the Dowagiac drills stay sold that year?

A. I think they did.

X-Q. 6. Did the Van Brunt drills stay sold that year?

A. I couldn't tell you, sir; I couldn't state positively about any of them staying sold; I don't think there is any question but what some, more or less of them did, but there might have been some Dowagiacs returned for all I know; I was having troubles of my own about that time, and I didn't pay attention to the rest of the fellows, what they were doing.

X-Q. 7. The guaranty didn't seem to make the goods go then?

A. Didn't make them go; made them go back to where they came from all right.

X-Q. 8. The Minnesota Moline Plow Company allowed you full price on those that you returned?

A. Yes, sir, treated me very nicely.

X-Q. 9. Did they pay the freight, or did you pay the freight?

A. They paid the freight.

X-Q. 10. Allow you anything for damages, did they?

A. No.

X-Q. 11. You lost compensation for the time and energy you put in on that guaranty then?

A. No, sir, they paid me the retail price for them.

X-Q. 12. You paid merely the wholesale price, and then when they were turned back you were allowed the retail price?

A. Yes, sir.

X-Q. 13. Well, that compensated you for your trouble then?

A. It did, yes.

X-Q. 14. You were paid that much in the way of damages I should say?

A. Well, yes, you could take it in that way. I had paid for the drills before this trouble came up, and I turned them back to them at what I had sold them for.

X-Q. 15. Is that the way the Minnesota Moline Plow Company stands back of all its goods?

A. Well, no, they never had an opportunity while I dealt with them; so I don't know.

X-Q. 16. You was handling their full line, were you?

A. Yes, sir; that is the first thing I ever had to return to them.

X-Q. 17. Never paid any attention to the shoe grain drill business, aside from that one year?

A. I sold out that year; I have not handled implements since; I have been here in Fargo.

X-Q. 18. Did you handle shoe grain drills before that year?

A. No, sir.

X-Q 19. Do you own a farm?

A. Now, or at that time?

X-Q. 20. At that time.

A. At that time I did, yes.

X-Q. 21. What sort of grain drills did you use on your farm?

A. I rented it; there was very little broken.

X-Q. 22. You didn't do the farming yourself then?

A. No, sir.

X-Q. 23. Ever have anything to do with the business as a practical farmer?

A. No, sir.

X-Q. 24. What agent sold you the McSherry shoe drills?

A. The traveling salesman?

X-Q. 25. Yes.

A. Well, sir, I couldn't tell you.

X-Q. 26. Do you think it was Mr. Blenkhorn?

A. It was not.

X-Q. 27. What year was it?

A. 1898; I think I would know the man's name if I heard it, but it has slipped my mind now.

X-Q. 28. Wasn't it Schmidt?

A. I think not.

X-Q. 29. Your strongest competitor in the shoe grain drill business at that time was which?

A. Why, I don't know; it would lie between the Monitor and the Dowagiac I think; that is, there was more of those drills sold there than any other.

X-Q. 30. Was it the Monitor shoe drill or the Monitor disk drill?

A. The Monitor shoe drill; I don't think the disk was made at that time, was it?

X-Q. 31. Who handled the Monitor?

A. John McRae.

X-Q. 32. You don't know how many he sold?

A. No, I do not.

X-Q. 33. He sold them for a less price than the Dowagiac or the McSherry, didn't he?

A. I don't know that he did, no, sir; I don't remember now.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. I believe you said you returned those twenty-five McSherry shoe drills to the Minnesota Moline Plow Company, because of trouble with the shoe; is that correct?

A. Yes, sir.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

L. O. LARSON, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is L. O. Larson; 49 years old past; reside at Courtney, North Dakota; occupation, farm implements, harness and furniture.

Q. 2. Did your firm used to be Larson & Cooper?

A. Yes, sir.

Q. 3. Is that the name of the firm now?

A. No.

Q. 4. Did your firm ever deal in agricultural implements?

A. Yes, sir.

Q. 5. Ever sell any shoe drills?

A. Yes, sir.

Q. 6. Who did you buy them from?

A. Why, in 1893 we bought some shoe drills of the Dowagiac Manufacturing Company.

Q. 7. Did you ever buy any McSherry shoe drills from the Minnesota Moline Plow Company?

A. Yes; we had a branch house at Kensal, North Dakota.

Q. 8. According to my figures your firm bought fifteen McSherry shoe drills from the Minnesota Moline Plow Company; is that about the right figure?

A. I aint' sure about that; all the figures I have is the last pur-

chase we made. It seems to me we sold four at Kensal, North Dakota of the McSherry; that is about 1900, I think; then we sold two I think in Courtney, in 1901 I believe.

Q. 9. Do you remember whether you ever bought any McSherry shoe drills prior to 1900, from the Minnesota Moline Plow Company?

A. No, I don't think it, but I ain't positive as to that year.

Q. 10. Did you buy them outright?

A. Yes, sir.

Q. 11. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of its goods, its responsibility, etc.?

A. Why, very good.

Q. 12. Did you handle the general line of goods sold by the Minnesota Moline Plow Company?

A. Yes, sir, the full line, including everything.

Q. 13. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, my partner bought those that was sold in Kensal, and those two in Courtney, and the last purchase I bought them myself; that is, the winter of 1902. Mr. Blenhkorn came down to the house, and we worked part of the night making out orders; I bought three carloads of goods.

Q. 14. Were there some McSherry shoe drills in those carloads?

A. Yes, I think there was seven or eight that we bought to make out the three factory cars. That is, from Moline, Illinois.

Q. 15. Do you remember the kind of spring pressure device that was on these McSherry shoe drills?

A. Well, I didn't pay much attention to it, for the reason we never sold the drills, only just two that was sold the year before. I think I sold them to a Russian; he came in and wanted two drills, and he couldn't talk; I wrote down the prices on a piece of paper and showed him, and we sold the McSherry $10 less than we did the Van Brunt.

Q. 16. Did you ever return any McSherry shoe drills to the Minnesota Moline Plow Company?

A. The last shipment we returned; we set up one in front of our house, and we thought the feed cups didn't look right, so we went and got some flax and poured into the box and we found it run right through onto the ground.

Q. 17. Leaked out the flax seed?

A. Leaked it through the feed cups right onto the ground.

Q. 18. When it was standing still?

A. Yes.

Q. 19. Did you buy the McSherry shoe drills from the Minnesota Moline Plow Company because of any particular spring pressure device they had?

A. No, I don't think we discussed that.

Q. 20. What other kind of shoe drills did your firm sell?

A. The Van Brunt.

Q. 21. How many years did you sell the Van Brunt?

A. About ten years.

Q. 22. What kind of spring pressure device did the Van Brunt shoe drills have?

A. They had a coil spring.

Q. 23. How did the selling price of the Van Brunt compare with the McSherry shoe drills?

A. We got about $10 more on it, $10 to $12 more for the Van Brunt.

Q. 24. What kind of shoe drills were mostly sold in your part of the country, if you remember?

A. Well, the Van Brunt had the bulk of it, and there has other makes been sold there.

Q. 25. What kind of soil is there about Courtney, North Dakota?

A. It is black loam.

Q. 26. Any gumbo soil?

A. No, I don't think it is much gumbo; it is rather sticky when it gets wet.

Cross-Examination by Mr. Chappell.

X-Q. 1. What sizes of drills do you sell principally in your territory?

A. Well, in early days we sold mostly 17s; of late years we sell mostly 22s and 24s; a good many 24s.

X-Q. 2. Any Van Brunt shoe drills now do you sell?

A. Nearly all single disk now.

X-Q. 3. When was the last trade on Van Brunt shoe drills that amounted to anything?

A. Oh, 1903, we didn't sell hardly any shoe drills.

X-Q. 4. Up to that time you sold a good many shoe drills?

A. Mostly shoes.

X-Q. 5. What were the talking points on the Van Brunt shoe drills that enabled you to sell them to farmers at a higher price?

A. Well, the shoe has what we call plow steel in it; that is, they are hard. You can take and break them with a hammer; they scour easier than any other make I have had anything to do with.

X-Q. 6. Any adjustments on the Van Brunt that help out in the selling?

A. Well, the tongue levers, and then the malleables instead of castings.

X-Q. 7. What was the purpose of the tongue lever?

A. Well, to adjust the shoe; throw the shoe on the heel.

X-Q. 8. What was your strongest competitor in the shoe drill line up to 1902, say?

A Why, I think the Superior.

X-Q. 9. The Superior shoe drills?

A. Yes.

X-Q. 10. Who handled the Superior shoe drill?

A. H. M. Tucker.

X-Q. 11. How many do you think he sold a year in 1901 and 1902?

A. Well, it is hard to say; ten or twelve a year, or fourteen maybe, possibly.

X-Q. 12. You don't know; you are just giving an estimate?

A. I am just guessing at that.

X-Q. 13. What was the next strongest competitor after the Superior?

A. Well, Mr. Burg sold the Hoosier; it didn't take well.

X-Q. 14. Then what was the other drills?

A. There was just the Van Brunt.

X-Q. 15. Was the Dowagiac drill sold in your territory?

A. No, not for the last ten years.

X-Q. 16. You handled the Dowagiac for awhile, didn't you?

A. Yes, sir.

X-Q. 17. What was the objection to it?

A. Well, I don't know any particular objections; of course we talked the steel frame for the McSherry and the Van Brunt.

X-Q. 18. Well, was the spring ever objected to on the Dowagiac?

A. No.

X-Q. 19. To apply the pressure to the shoe?

A. No, I don't know what it was particularly.

X-Q. 20. The Dowagiac was well up on the heel, wasn't it?

A. Fairly well.

X-Q. 21. Never had any trouble with the Dowagiac collecting trash in front of the shoes, did you?

A. No, but they didn't scour as easy as the Van Brunt shoe, they being softer material.

X-Q. 22. Which did you pay the most for, the Dowagiacs or the Van Brunts?

A. Well, I don't remember the price that we paid for the Dowagiacs. It seems to me there was not much difference between the two drills in price.

X-Q. 23. Have you got your contracts here that show the prices?

A. No, I have not.

X-Q. 24. What was the nearest place at which the Dowagiac drills were handled?

A. Wimbledon.

X-Q. 25. Who handled them there?

A. Anton Fried.

X-Q. 26. State the circumstances under which you discontinued handling the Dowagiac shoe drill?

A Well, there might have been several small—I know of one. I can state one thing that created a little dissatisfaction. They had a collector by the name of Ludwigson who used to come up there and collect, and he would write say a week before he would be there to hold any collections that we might get in until he got there, and he would get this money and send in to the company and tell the company that he caught us with considerable money that we hadn't remitted, and so the company would write us a saucy letter and one thing and another brought on dissatisfaction.

X-Q. 27. Well, the Dowagiac company did not like to have two agencies covering substantially the same territory, did they?

A. I don't know as to that.

X-Q. 28. That was not brought up and discussed at all then?

A. No.

X-Q. 29. Was not the Dowagiac drill your strongest competitor while you were handling Van Brunts and McSherrys?

A. No; the Wimbledon trade never interfered with the Courtney trade.

X-Q. 30. What were the points mentioned and discussed when you bought the McSherry drills?

A. I don't know as there was any.

X-Q. 31. Did they tell you what kind of a spring it had on the shoes?

A. I don't remember; I remember about the bill, that we worked until the middle of the night. My wife had gone to bed, and I went down and got lunch, and then I got back and Mr. Blenkhorn had the weights and everything figured out, and he put, I think, six or seven drills on this order to make out the weights. Had it all written on the contract, and I didn't protest.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

DANIEL G. McINTOSH, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. D. G. McIntosch; 46 years of age; residence, St. Thomas, North Dakota; occupation, dealer in farm machinery and hardware.

Q. 2. What used to be the name of your firm?

A. Ganssle & McIntosh.

Q. 3. Is that the name of your firm now?

A. No; it is now McIntosh Brothers.

Q. 4. Did your firm ever deal in agricultural machinery?

A. Yes, sir; that was our business.

Q. 5. Did you ever handle any shoe drills?

A. Yes, we always handled shoe drills.

Q. 6. Any McSherry shoe drills?

A. Yes, we handled a few McSherry shoe drills.

Q. 7. Who did you buy them from?

A. From the Minnesota Moline Plow Company through Blenkhorn.

Q. 8. According to my figures your firm bought five McSherry shoe drills from the Minnesota Moline Plow Company; are those figures about right?

A. They are about right I think.

Q. 9. What was the reputation of the Minnesota Moline Plow Company in your part of the territory for the character of its goods, its responsibility, etc.?

A. It was good; we have been handling their line practically exclusively.

Q. 10. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, because the Minnesota Moline Plow Company were handling them, to make up weight in a car.

Q. 11. That is, to make a full carload?

A. Yes.

Q. 12. And get carload rates I suppose?

A. Yes, that is right.

Q. 13. Do you remember the kind of spring pressure device that these McSherry shoe drills had?

A. I don't know as I do positively.

Q. 14. I will ask you to state what the fact may be as to whether or not you bought these McSherry shoe drills because of any particular kind of spring pressure device which they had for holding the shoes to the ground?

A. I did not.

Q. 15. Did you sell any of those McSherry shoe drills to farmers yourself?

A. Yes.

Q. 16. What particular points, if any, would you call the attention of the farmers to in making sales?

A. The fact that I had them on hand and wanted to get rid of them, was about the only thing. I would get a customer that wanted them and I sold them; told them they would do the business, and they did.

Q. 17. Did you lay any particular stress upon one point or another?

A. I don't think so.

Q. 18. Any particular stress on the shoe pressure; spring pressure?

A. No, I don't think so.

Q. 19. Did you ever sell any other kinds of shoe drills besides the McSherry?

A. I did.

Q. 20. What kinds?

A. The Dowagiac and Van Brunt.

Q. 21. Was that before or after you sold the McSherry?

A. Before and after.

Q. 22. Which kind did you sell before?

A. The Dowagiac.

Q. 23. And the Van Brunt afterwards?

A. Yes.

Q. 24. What kind are you selling now, if any?

A. The Van Brunt.

Q. 25. The Van Brunts now are disk drills, are they not?

A And shoe.

Q. 26. What kind of spring pressure device for the shoes did the Van Brunt shoe drills which you sold have?

A. Coil spring.

Q. 27. What kind of shoe drills were sold principally in your part of the country?

A. There was the Dowagiac, the Van Brunt, the Kentucky and the Superior.

Q. 28. Did you ever return any of the McSherry shoe drills to the Minnesota Moline Plow Company?

A. No.

Q. 29. What kind of soil do you have in your part of the country?

A. Clay loam.

Q. 30. Any gumbo soil?

A. Not any to speak of.

Cross-Examination by Mr. Chappell.

X-Q. 1. When did you begin hadling the Dowagiac shoe drill?

A. Well, I sold the Dowagiac shoe drill, the first in 1888.

X-Q. 2. When did you begin with the rod pressure device?

A. I can't state positively as to the year, but I think it was 1890, if I am not mistaken.

X-Q. 3. How long did you continue to handle Dowagiac shoe drills?

A. Well, up until—well, I can say up until 1904, because I sold some this year; one or two. I have not had a contract for two years; I have had some on hand.

X-Q. 4. What did you do in exhibiting a Dowagiac drill to a customer; did you operate the pressure levers ever?

A. Not particularly, any more than on any other drill.

X-Q. 5. Well, one of the first things to do would be to operate the pressure levers, wouldn't it, in selling a drill?

A. No.

X-Q. 6. If you had it on the floor you would show how the shoes worked, wouldn't you?

A. Not necessarily. A man would show naturally the construction of the drill as to durability and strength; that would be about the first thing to do; that is one of the important features of any drill I would suppose.

X-Q. 7. It woudn't cut much figure unless they had a good spring pressure?

A. Certainly it would. Spring pressure wouldn't do any good if there wasn't sufficient construction to hold the drill together.

X-Q. 8. Well, the question of strength of frame, that certain thing wouldn't cut any figure unless they had a good spring pressure, would it, on a shoe drill?

A. Why, that would depend upon what a man's idea of spring pressure was. I don't know that I ever heard the question of spring pressure discussed in the sale of drills.

X-Q. 9. Don't the Dowagiac company's advertising matter always make spring pressure a prominent feature in selling the drill?

A. Why, not necessarily in the sale of drills altogether. It depends on the agent who handles it and goes after the trade. That has always been my idea of it; not particularly what drill. If the drill is able to do the work, and the agent presents it to the trade properly he will get it.

X-Q. 10. Which drill did you pay the most for, the Van Brunt or the Dowagiac?

A. Why, I don't think there is any material difference.

X-Q. 11. Have you got your contracts here so you can tell?

A. No, I have not.

X-Q. 12. What were the talking points about the Van Brunt drill?

A. The general construction.

X-Q. 13. Was the general construction any different from the Dowagiac?

A. Why, they have a different frame; a differently constructed frame.

X-Q. 14. What is the peculiarity about the Vau Brunt frame that you discussed that is different from the Dowagiac frame?

A. Well, they have got a different attachment for putting the shoes or disks on than the Dowagiac.

X-Q. 15. Got an adjustable feature, haven't they?

A. Yes, sir, in the handling of the poles.

X-Q. 16. That also varies the angle of the shoe, doesn't it?

A. Yes.

X-Q. 17. You always mentioned that point when you was selling the VanBrunt shoe drill, didn't you?

A. No, I don't know that I did. It had been established there so long before I started to sell it.

X-Q. 18. When you noticed the McSherry shoe drill had a pair of rods for spring pressure on the shoes, you were satisfied that the spring pressure was all right, wasn't you?

A. I never saw the McSherrys until I got them in; in the car.

X-Q. 19. I say when you saw that you knew that the spring pressure was all right, didn't you?

A. I don't know that I ever gave it any particular thought, as to the spring pressure; the construction of it, being able to stand up, was about the only feature ever taken into consideration.

X-Q. 20. Did you sell the McSherry for less money than the Dowagiac?

A. Yes, I think so. I think there was a difference in price.

X-Q. 21. Bought them for less money, didn't you?

A. Yes, I think we did buy it for less money.

X-Q. 22. Did you regard the McSherry as a high grade drill?

A. I did not.

X-Q. 23. Do you regard the VanBrunt as a high grade drill?

A. Yes.

X-Q. 24. What is the difference between the VanBrunt and the McSherry that makes one a high grade drill and the other not a high grade drill?

A. Why, the general construction of the two drills, I should say.

X-Q. 25. No difference in the material, is there?

A. Yes, I think there is a difference in the material.

X-Q. 26. What is the difference?

A. I think the VanBrunt had mostly malleable parts, and the McSherry was not. The McSherry was cast.

X-Q. 27. What other shoe drills were sold in competition while you were handling drills?

A. The Kentucky, the Superior and the Monitor.

X-Q. 28. Those were all shoe drills, were they?

A. Yes.

X-Q. 29. Who handled the Superior?

A. Why, at the time it was handled there, A. P. Buchanan.

X-Q. 30. Was there very many of those sold?

A. Yes. In the earlier days there was a lot of them sold.

X-Q. 31. When was the last Superior shoe drill sold that you know of or remember?

A. I don't know, I am sure, whether there has been any sold in the last year or two or not. They have sold Superior drills; whether they sold any shoe drills or not, I don't know.

X-Q. 32. You don't know of their having sold shoe drills for a good many years, do you, of the Superior make?

A. No, not positively.

X-Q. 33. Do you own a farm?

A. I do.

X-Q. 34. Do you run it yourself?

A. We do.

X-Q. 35. What drill do you use on it?

A. The VanBrunt.

X-Q. 36. More than one?

A. Yes, two.

X-Q. 37. What sizes?

A. 22.

X-Q. 38. Disks or shoes?

A. Disk.

X-Q. 39. Did you ever use a shoe drill on your farm?

A. Yes.

X-Q. 40. What make?

A. The VanBrunt.

X-Q. 41. What size?

A. 22.

X-Q. 42. When did you use it?

A. 1902, I think.

X-Q. 43. When did you discontinue handling the Dowagiac?

A. 1902, I think my contract expired. I still handle them, though, yet. I have got one or two on hand yet.

X-Q. 44. State the circumstances that led you to discontinue handling the Dowagiac.

A. Well, mostly they didn't have a disk drill in 1902, I think it was.

X-Q. 45. The disk drill has rather superseded the shoe drill of late, has it?

A. Why, partially so.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. At the time you bought the five McSherry shoe drills from the Minnesota Moline Plow Company, did you know what kind of spring pressure device they had for the shoes?

A. I don't think so.

Re-Cross Examination by Mr. Chappell.

R-X Q. 1. What was the nature of the guaranty that the Minnesota Moline Plow Company gave you regarding the McSherry shoe drills?

A. That they were able to do the business, and that they would do it as well as any other drill made.

R-X Q. 2. And that was put in without any specificatoin as to any details, was it?

A. Well, it was just simply the regular guaranty on their line of goods. There wasn't any specific guaranty on drills any more than anything else.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

RALPH H. STULL, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Ralph H. Stull; 45 years old; occupation, implement dealer; residence, Cavalier, North Dakota.

Q. 2. What used to be the name of your firm?

A. Stull & Wilson.

Q. 3. Is that still the name of your firm?

A. No, sir.

Q. 4. Did your firm ever deal in agricultural machinery?

A. Yes, sir.

Q. 5. Did you ever sell any shoe drills?

A. Yes, sir.

Q. 6. Did you ever sell any McSherry shoe drills?

A. Yes, sir.

Q. 7. Who did you buy them from?

A. The Minnesota Moline Plow Company.

Q. 8. According to my figures, the firm of Stull & Wilson bought four McSherry shoe drills from the Minnesota Moline Plow Company; is that about right?

A. Yes, sir.

Q. 9. Do you handle any other goods sold by the Minnesota Moline Plow Company?

A. Yes, sir.

Q. 10. Their general line?

A. Yes, sir.

Q. 11. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

A. Why, we bought out Thompson, and he had given an order to the Moline Plow Company, and McMurray Brothers was starting in, and they wanted the same line, so that we saw Blenkhorn when he came up, and he told us if we would adopt the order that Thompson had already given that he would give us the line of goods, and these four drills was in the order, and we took the order just as Thompson had given it.

Q. 12. Did you know what kind of a spring pressure device these McSherry shoe drills had at the time you bought them?

A. No, sir.

Q. 13. Did you sell these McSherry shoe drills?

A. Yes, sir.

Q. 14. Did you yourself personally have anything to do with the selling of them to the farmers?

A. Some of them, yes.

Q. 15. What kind of talk would you make in order to sell these McSherry shoe drills to the farmers?

A. Well, just the general principles of the drill.

Q. 16. You may state whether or not you laid stress upon any particular feature.

A. No, sir.

Q. 17. What was the reputation of the Minnesota Moline Plow Company in your part of the territory, as to the character of its goods, its responsibility, etc.?

A. Good.

Q. 18. What other kind of shoe drills did your firm ever sell, if any?

A. The VanBrunt.

Q. 19. Was that before or after you sold the McSherry?

A. The same time.

Q. 20. How long did you sell the VanBrunt?

A. Five years.

Q. 21. What kind of spring pressure did the VanBrunt shoe drills have?

A. Coil spring.

Q. 22. Did you ever sell any other kinds of shoe drills?

A. I sold some Peorias, I think; two or three.

Q. 23. What kind of soil do you have about Cavalier?

A. There is a variety of soil. We have both heavy and light land.

Q. 24. Do you have any gumbo soil?

A. Yes, sir.

Cross-Examination by Mr. Chappell.

X-Q. 1. What was the guaranty of the Minnesota Moline Plow Company on its goods?

A. Guaranteed to do the work they were sold for; to give satisfaction.

X-Q. 2. When they gave that guaranty regarding any goods, and you knew they would stand back of it, you didn't pay much attention to the details, did you?

A. No, sir; that was my first experience in buying; the first business I done with them was to buy those drills.

X-Q. 3. Did you ever handle Dowagiac drills?

A. No, sir.

X-Q. 4. Know what they were?

A. Yes, sir.

X-Q. 5. What was the reputation of the Dowagiac shoe drill?

A. It was good.

X-Q. 6. When you saw that the McSherry had a spring like the Dowagiac, you knew that was all right, didn't you?

A. Well, it was a similar spring to the Dowagiac, yes.

X-Q. 7. And as a consequence you knew it was all right?

A. Well, I didn't like it, because when I bought my drills I came to Fargo and talked with Mr. Swayne here, and Mr. Hammond, and I had the choice of the two drills to buy. That was before

I bought the McSherry drills. I bought the VanBrunt. I had used both of them on my farm before.

X-Q. 8. What was it about the VanBrunt that led you to buy it?

A. Well, I liked the drill better all the way through.

X-Q. 9. Get it for less money, too, couldn't you?

A. No, sir. I think it cost a half a dollar more, if I remember right.

X-Q. 10. Have you got your contract here to show?

A. No. There was half a dollar's difference. I think there was less than a dollar's difference in the two contracts. I think the Dowagiac was the cheaper of the two, if I ain't mistaken; I ain't sure.

X-Q. 11. What features did you talk in selling the VanBrunt drill?

A. Well, it was a steel frame drill, and it was a stronger pressure. We have got some land that is very hard to get a drill into, and the VanBrunt is a stronger pressure than the Dowagiac is.

X-Q. 12. How much pressure do you get on the shoe in the VanBrunt drill?

A. I don't know, but I know you can force it into the ground where you can't the Dowagiac, or couldn't.

X-Q. 13. As a matter of fact, when the lever is thrown over to apply the pressure, are not the carrying wheels lifted off the ground with either the VanBrunt or Dowagiac, so that the whole load of the machine presses on the shoes?

A. I don't think so.

X-Q. 14. You don't know whether that is so or not?

A. The Dowagiac drill that I had wouldn't raise the wheels.

X-Q. 15. Where did you get the Dowagiac drill that you had?

A. I bought it direct from the Dowagiac Manufacturing Company at St. Thomas. George Flath had been handling them, I think, and he had some trouble with the Dowagiac, and one of the men from their factory came up and sold it to me himself. He sold it direct. One of the Dowagiac men, I don't know who it was; I don't remember his name.

X-Q. 16. When did this occur?

A. In 1891, I believe.

X-Q. 17. Do you remember what kind of a spring was on that drill?

A. Yes, sir, it was a rod, a straight rod; two rods on each shoe.

X-Q. 18. Did you see any of their drills after that year 1891?

A. Yes, sir.

X-Q. 19. As a matter of fact, didn't they put a stiffer spring on after 1891?

A. I couldn't tell you; I don't think so. They changed springs about that time; they had a flat spring before, and then they changed to a rod spring.

X-Q. 20. Then they changed from the one rod spring to another rod spring of larger size, did they not, so that they got more pressure?

A. I couldn't say.

X-Q. 21. This machine that you had had a pair of cast plates on the draw-bar that held the spring, did it not?

A. I think so; I ain't certain about that. It was a wood frame drill.

X-Q. 22. When did you handle the Peoria?

A. Three years ago.

X-Q. 23. What kind of a spring did they have?

A. A coil spring.

X-Q. 24. Handle very many of them?

A. Two or three; three, I think.

X-Q. 25. How many VanBrunt drills do you sell in the course of a year, or did you sell when they were making shoe drills only?

A. Eighteen or twenty, along there somewhere.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. I believe you have said that you had a Dowagiac shoe drill and also a VanBrunt shoe drill on your farm?

A. Yes, sir.

Re-Cross Examination by Mr. Chappell.

R-X Q. 1. When did you purchase the Dowagiac drill that is in use on your farm?

A. It was in 1891, 1892 or 1893, somewhere along there. I don't just remember the year.

R-X Q. 2. You manage the farm yourself?

A. I did at that time.

R-X Q. 3. Do you manage it now?

A. Not for the last five years I haven't.

R-X Q. 4. Do you remember just the details of construction of the spring on that Dowagiac drill?

A. No, sir.

Re-Direct Examination by Mr. Banning.

R-D. Q. 1. Were the rods round or flat on that Dowagiac drill?

A. Round.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

CHARLES V. BROWN, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Charles V. Brown; age, 45; residence, Cathay, North Dakota; occupation, hardware and farm implements.

Q. 2. Did you ever buy and sell any shoe drills?

A. Yes, sir.

Q. 3. What kind were they?

A. Several kinds.

Q. 4. Did you ever buy and sell any McSherry shoe drills?

A. Yes, sir.

Q. 5. Who did you buy them from?

A. The Minnesota Moline Plow Company.

Q. 6. About what year was that, if you remember?

A. I could not give the year.

Q. 7. Did you buy them outright?

A. Yes, sir.

Q. 8. According to my figures, you bought nine McSherry shoe drills from the Minnesota Moline Plow Company; are those figures about right?

A. I couldn't tell you whether they are or not.

Q. 9. You don't remember the exact number?

A. No, sir.

Q. 10. Did you handle any other goods sold by the Minnesota Moline Company?

A. Handled their general line, yes, sir.

Q. 11. What was the reputation of the Minnesota Moline Plow Company in your part of the country for the character of its goods, responsibility, etc.?

A. Good.

Q. 12. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, I bought practically everything that I handled from them. It was handier and better.

Q. 13. Do you remember the kind of spring pressure device that was on these McSherry shoe drills?

A. Yes, sir.

Q. 14. Please state what particular feature, if any, caused you to buy these McSherry shoe drills.

A. Nothing particular. They said they would do the work.

Q. 15. You may state what the fact may be as to whether or not you bought them because of any particular kind of spring pressure that they had to hold the shoes to the ground.

A. Not that I remember of.

Q. 16. What other kinds of shoe drills have you sold besides the McSherry?

A. The Hoosier, the Buckeye, the Dowagiac and the Kentucky.

Q. 17. What kind of spring pressure device did the Hoosier have?

A. I couldn't say; I think that was the first drill we handled; I don't remember.

Q. 18. Did you yourself personally sell any McSherry shoe drills to the farmers?

A. I have, yes, sir.

Q. 19. What particular points, if any, would you call their attention to when selling McSherry shoe drills?

A. That they were good, solidly built drills, guaranteed to work.

Q. 20. You may state what the fact may be as to whether you laid any particular stress upon the kind of spring pressure device that they had for the shoes.

A. I don't remember that I ever did.

Q. 21. I believe you have said you sold the Hoosier before you sold the McSherry?

A. Yes, sir.

Q. 22. Any other kind before you sold the McSherry?

A. The Dowagiac.

Q. 23. What kinds have you sold since selling the McSherry?

A. The Dowagiac and the Kentucky. I think that is all.

Q. 24. What kind of shoe drills were mostly sold in your part of the country?

A. The VanBrunt and Kentucky and the Dowagiac are the three main drills.

Q. 25. Which do you consider was your strongest competitor while you were selling the McSherry shoe drills?

A. The Kentucky was in my town.

Q. 26. How was it when you were selling the Dowagiac shoe drills?

A. The same.

Q. 27. What kind of soil do you have about Catbay?

A. Sandy loam; black loam.

Q. 28. Any gumbo soil?

A. None to speak of.

Cross-Examination by Mr. Chappell.

X-Q. 1. State the different shoe grain drills you have handled, indicating the time that you handled each one.

A. I could not do it. I handled the Hoosier first, and, I think, the Buckeye and the Dowagiac and the McSherry; commenced business in 1892; I could not give the years.

X-Q. 2. When did you begin handling the Dowagiac?

A. I think the first I bought was in 1893, if I am not mistaken. I would not say positively.

X-Q. 3. How many Buckeyes did you ever sell?

A. I couldn't tell you that.

X-Q. 4. Think you sold three?

A. Yes, I know I did.

X-Q. 5. More than that?

A. I think so.

X-Q. 6. Did you sell five?

A. I couldn't tell you; I don't remember the number. I didn't sell very many.

X-Q. 7. What kind of pressure was there on the Hoosier; wasn't that a sort of rod spring?

A. I don't remember at all.

X-Q. 8. With a loop turned in it?

A. I don't remember the Hoosier spring at all.

X-Q. 9. Do you remember the Buckeye spring?

A. I think it was a coil.

X-Q. 10. Who sold the Buckeye after you did?

A. It has not been sold around there, I don't think.

X-Q. 11. Who sold the Hoosier after you did?

A. It has not been sold in the town that I have lived in since.

X-Q. 12. Have you ever mentioned the spring in selling the Dowagiac drill to farmers?

A. I don't know that I did, anymore than anything else.

X-Q. 13. Which shoe drill did you sell the most of?

A. I sold the most of the Dowagiac; handled them longer.

X-Q. 14. Ever any complaints about the spring pressure device on the Dowagiac?

A. Yes, there is.

X-Q. 14*a*. What are those complaints?

A. Heavy on the horses' necks.

X-Q. 15. Did you handle the VanBrunt shoe drill, did you say?

A. No, sir.

X-Q. 16. How would the spring pressure device be heavy on the horses' necks?

A. Why, I can't explain it to you. That is just the complaint from the farmers, that is all.

X-Q. 17. They said that the spring pressure device was heavy on the horses' necks, did they?

A. Well, that was the Dowagiac. I could not say whether that was the reason or not.

X-Q. 18. Said the Dowagiac drill was heavy on the horses' necks?

A. That is the complaint of the farmers.

X-Q. 19. They didn't make any complaint about the spring pressure causing it, did they?

A. I never heard any complaint about any of the spring pressure, as far as that is concerned; pressure enough.

X-Q. 20. You handled the Kentucky, did you?

A. I did this year, yes, sir. The firm that I am interested in did, not me personally.

X-Q. 21. Disk drills principally, weren't they?

A. Yes, sir.

X-Q. 22. What sizes of drills are sold principally in your territory?

A. 20 and 22; mostly 22.

X-Q. 23. What sort of a guaranty did the Minnesota Moline Plow Company give you in connection with their goods?

A. They stand back of all of them; guarantee them to be as good goods as anybody's.

X-Q. 24. If you have trouble with their being sent back, they take them off your hands, do they?

A. I don't think I ever returned anything there. I don't remember of it.

X-Q. 25. You regarded them as experts in the matter of farm implements and farm machinery, and when they said a thing was all right, why that settled it as far as you was concerned, did it, or didn't it?

A. Well, I considered that if it was not all right that they would see me out of it; that they would make it so.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

JAMES A. WILSON, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is James A. Wilson; residence, Cavalier, Pembina County, North Dakota; occupation, deputy sheriff.

Q. 2. Were you ever a member of a firm at Cavalier dealing in agricultural implements of any kind?

A. Yes, sir.

Q. 3. What was the name of that firm?

A. Stull & Wilson.

Q. 4. R. H. Stull?

A. R. H. Stull, yes, sir.

Q. 5. Did your firm ever handle any shoe drills of any kind?

A. Yes, sir.

Q. 6. Please state what kinds, if you remember.

A. We handled the VanBrunt and the McSherry.

Q. 7. Who did you buy your McSherry shoe drills from?

A. The Minnesota Moline Plow Company.

Q. 7*a*. According to my figures, your firm bought four McSherry

shoe drills from the Minnesota Moline Plow Company; is that your recollection?

A. About that number; I don't just recollect.

Q. 8. Did you buy any other kinds of goods from the Minnesota Moline Plow Company?

A. Yes.

Q. 9. What kinds?

A. Why, the general line; buggies, plows, harrows and wagons.

Q. 10. What caused your firm to buy the McSherry shoe drills from the Minnesota Moline Plow Company, if you remember?

A. Well, they were somewhat cheaper than the other make of drills we was handling, and we were doing business with them, and we bought some to fill in the car and make a car-load.

Q. 11. To fill out a car?

A. Yes, to fill out a car.

Q. 12. Did you yourself sell these McSherry shoe drills to the farmers?

A. I sold some of them, yes.

Q. 13. Do you remember what kind of spring pressure device was on these McSherry shoe drills to hold the shoes to the ground?

A. Yes, sir.

Q. 14. Please state what the fact may be as to whether or not you bought these McSherry shoe drills because of any particular spring pressure device for the shoes that they had.

A. No, sir, we did not.

Q. 15. What other kind of shoe drills did your firm handle?

A. The VanBrunt.

Q. 16. Was that before or after handling these McSherry shoe drills?

A. At the same time.

Q. 17. Which kind of shoe drills did your firm sell the most of?

A. The VanBrunt.

Q. 18. How long did you handle the VanBrunt?

A. I was only in business two years. I sold out to Mr. Stull and he continued the business. He is still handling them.

Q. 19. Do you remember about how many VanBrunts you handled while you were a member of the firm?

A. In the two years, I would judge about 20; I don't know for sure; probably more.

Cross-Examination by Mr. Chappell.

X-Q. 1. When did you quit the implement business?

A. In 1902; in the spring of 1902.

X-Q. 2. What were the talking points on the Minnesota Moline Plow Company's McSherry drills that you used when you was selling them to the farmer?

A. Why, nothing in particular. Personally I never had a very good opinion of them myself.

X-Q. 3. You didn't have to do with that part of it?

A. Well, I used to sell, yes, but I never used to recommend them very highly, because personally I didn't think it was a very good machine myself.

X-Q. 4. Thought the VanBrunt was better?

A. I thought so, yes.

X-Q. 5. Why was the VanBrunt better?

A. Well, to my notion it was a better constructed machine, made of better material, and a nicer looking machine to look at.

X-Q. 6. Had certain adjustments, I suppose, that the McSherry didn't have?

A. Well, not in particular.

X-Q. 7. What sizes did you sell principally?

A. Oh, 20s and 22s, I think, principally; some 18s.

X-Q. 8. How many VanBrunt drills did you sell altogether of the shoe variety?

A. Well, I couldn't say, but I would think in the neighborhood of 20 or 25, perhaps.

X-Q. 9. What was the strongest competition, or what was the strongest competition in the shoe drill business?

A. Why, in that locality the Havana was the strongest competition.

X-Q. 10. What is known as the Havana press drill?

A. The Havana press drill.

X-Q. 11. Have they been sold very extensively since 1892 and '3?

A. Not so much so as it was prior to that time.

X-Q. 12. What has been sold since then, principally?

A. Well, the disk drill has been principally sold in that locality since that time; different makes.

X-Q. 13. The disk drill didn't come in until along towards 1900, did it?

A. No, about 1900.

X-Q. 14. What shoe drills superseded the Havana, principally?

A. Well, I couldn't just say.

X-Q. 15. Wasn't there a good many Dowagiac shoe drills sold there?

A. There was some, yes.

X-Q. 16. What sort of a guaranty did the Minnesota Moline Plow Company people give with their goods?

A. Just the general guaranty that was on the contract covering all the line of goods, guaranteeing them to do the work; no special guaranty that I remember of.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

RALPH B. WELCH, a witness produced, sworn and examined on the part of the defendants, testified and deposed as follows, in answer to questions by Mr. Banning:

Q. 1. Please state your name, age, residence and occupation.

A. R. B. Welch; age, 46; reside in Minto, North Dakota; occupation, threshing machine business, or I am working for the Advance Thresher Company.

Q. 2. Did you ever sell agricultural implements of any kind?

A. Yes, sir.

Q. 3. Did you ever sell any shoe drills?

A. Yes, sir.

Q. 4. What kinds did you sell?

A. Sold the VanBrunt, the McSherry, the Superior, the Havana and the Kentucky.

Q. 5. About what years did you sell the McSherry, if you remember?

A. I think it was in 1898, somewhere along there.

Q. 6. What was the name of your firm at the time you sold them?

A. R. B. Welch & Co.

Q. 7. Who did you buy your McSherry shoe drills from?

A. The Minnesota Moline Plow Company.

Q. 8. According to my figures, your firm bought ten McSherry shoe drills from the Minnesota Moline Plow Company; is that about right?

A. I think that is right.

Q. 9. Did you buy anything else from the Minnesota Moline Plow Company?

A. Yes, sir, we handled their full line.

Q. 10. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

A. Well, we had bought our drills, the VanBrunts, and was afraid we was going to run short, and was filling a car down there, and so we took them rather than to pay local freight on the Van Brunts.

Q. 11. You had been selling the VanBrunt, had you?

A. Yes.

Q. 12. Did you know at the time you bought these McSherry shoe drills what the particular kind of spring pressure device was that they had for the shoes?

A. No, I never saw one.

Q. 13. Did you sell these McSherry shoe drills to the farmers?

A. Yes.

Q. 14. Did you yourself personally sell them?

A. Yes, sir.

A. The first one we got in 1888; just one drill I handled that year. That was the first year the drills come out.

X-Q. 3. And how long did you continue to handle them?

A. I don't know; three or four years.

X-Q. 4. Then what drill did you handle?

A. I got the VanBrunt then.

X-Q. 5. Seen any Superior shoe drills in your territory since you handled them?

A. Has there been any?

X-Q. 6. Have you seen any there since?

A. No. They have not been handled there since we changed, I think. Carpenter had some——

X-Q. 7. You quit handling them about 1891, didn't you?

A. I couldn't say whether it was 1891 or 1892.

X-Q. 8. How long since you had anything to do with the shoe grain drill business?

A. 1900.

X-Q. 9. Did you sell any of the VanBrunt drills personally to the farmers?

A. Yes, sir.

X-Q. 10. What were the talking points in selling a VanBrunt drill?

A. Oh, it was well made; they had a good reputation around there; never had any trouble selling VanBrunts; didn't have to talk much to sell them.

X-Q. 11. Simply say it was a VanBrunt?

A. Yes, sir.

X-Q. 12. And the farmers knew what it was?

A. Yes, sir, well known there.

X-Q. 13. About how many VanBrunt drills did you sell there?

A. About 18 or 20 a year; about a car-load a year.

X-Q. 14. Do you know how many Dowagiacs were sold in that territory?

A. No, I don't.

Q. 15. What particular talking points would you make in order to sell McSherry shoe drills, if any?

A. Well, not any in particular, more than the guaranty that the company gave us. I never saw them before; never saw them work; didn't know anything about them.

Q. 16. You may state whether you laid any particular stress upon the spring pressure for the shoes, or other features.

A. No, sir.

Q. 17. About how many VanBrunt shoe drills did your firm sell?

A. I think we had a car in that year, and I think we got these to finish up the season.

Q. 18. How many years did you deal in the VanBrunts?

A. Five or six years.

Q. 19. What particular kinds of shoe drills were mostly in use in your part of the country?

A. Well, at that time the most was the Dowagiac and the Van Brunt, was what was selling then. Mr. Carpenter handled the Dowagiac and we handled the VanBrunt.

Q. 20. What was the reputation of the Minnesota Moline Plow Company about your part of the country for the character of its goods, its responsibility, etc.?

A. Good.

Q. 21. What kind of soil did you have about Minto, North Dakota?

A. It was black loam. Down on the Red River, of course, it was a little heavier kind of clay.

Q. 22. Did you have any gumbo soil about your country?

A. No, not to speak of.

Cross-Examination by Mr. Chappell.

X-Q. 1. I understood you to say that you handled the Superior shoe drill?

A. Yes, sir.

X-Q. 2. When did you handle Superior shoe drills?

X-Q. 15. The Dowagiac was your strongest competition, wasn't it?

A. It was at that time, yes.

X-Q. 16. Well, it was up to 1900, wasn't it?

A. Yes. Before that the Tiger had been our strongest.

X-Q. 17. The Tiger shoe drill or disk drill?

A. Shoe drill.

X-Q. 18. Who handled the Tiger?

A. Fred Carpenter.

X-Q. 19. How many do you think he sold a year; that is, of the Tiger?

A. Oh, he would sell two car-loads; I don't know but more.

X-Q. 20. For how long a time?

A. About three years.

X-Q. 21. What dates were those?

A. Well, sir, I couldn't tell you. It would be 1894, I guess, or 1895, along there.

X-Q. 22. All you know about it is what you observed around there?

A. Yes.

X-Q. 23. You never looked at their books or anything of that kind?

A. No.

X-Q. 24. How many Dowagiacs do you think were sold each year?

A. I don't know, I am sure; they had a good sale on them.

X-Q. 25. Do you think there was a couple of car-loads of Dowagiacs sold?

A. No, I don't think they sold two car-loads a year.

X-Q. 26. Have you got your contracts here to show what price you paid for the grain drills?

A. No, sir.

X-Q. 27. Have you got a farm of your own?

A. No, sir.

X-Q. 28. Did you take any pains to ascertain what kind of a grain drill the McSherry was before it was delivered to you?

A. No, sir.

X-Q. 29. Simply the Minnesota Moline Plow people said it was all right and you let them send it along; is that it?

A. Yes, sir.

X-Q. 30. You depended on their judgment as to whether it was a good drill or not; is that right?

A. Yes.

The reading over and signing of this deposition by the witness was waived by the counsel for the respective parties.

Adjournment was here taken back to Minneapolis to complete the examination of Mr. Martin.

CIRCUIT COURT OF THE UNITED STATES, DISTRICT OF MINNESOTA, FOURTH DIVISION.

Dowagiac Manufacturing Company, *Complainant*,
vs.
Minnesota Moline Plow Company *et al.*, *Defendants.*
} In Equity.

In the matter of accounting before the Master, George F. Hitchcock, Jr.

Testimony taken on the part of the defendants this 11th day of September, 1905, before Harry Irwin Cromer, notary public in and for Cook County, Illinois, by agreement of parties.

Present, on behalf of the defendants, Thomas A. Banning, Esq., and on behalf of the complainant, Fred L. Chappell, Esq.

OSCAR W. BOND, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation.

A. Oscar W. Bond; age, 59 years; residence, Chicago, Illinois;

occupation, patent solicitor, for myself and the firm of Banning & Banning.

It is here agreed that the complainant's counsel may reserve his objections to questions and answers to the end of the direct examination without waiving any of his rights to make and insist upon such objections.

Q. 2. Please state what experience you have had in soliciting patents and in examining and studying letters patent, machines shown and described in letters patent and in comparing machines with those described and claimed in letters patent and your experience as a mechanician.

A. I have been engaged in the business of soliciting patents for more than thirty years last past, and during the time I have been so engaged I have prepared and prosecuted many hundred applications for patents on mechanical devices, machines and appliances. I have had occasion many times to examine and determine similarities and differences between devices, machines and appliances and patents thereon. I have examined and observed the operation of different machines and apparatus for the purpose of preparing the specifications thereon and for determining the similarities and differences between such machines and other machines of a similar character. In this manner I have become familiar with the mechanical arts generally.

Q. 3. Have you ever testified as an expert in patent causes?

A. I have in a number of cases.

Q. 4. In your work as solicitor of patents and as a patent expert, what, if any, experience have you had in the field of agricultural machinery, and particularly seeding machinery, such as grain drills?

A. I have examined and seen in operation nearly every kind of agricultural implement, including grain drills, and have prepared and prosecuted applications for patents on such instruments and have also examined and studied the grain drill art as shown by the patents granted thereon, from the beginning of the art, as shown in the Patent Office, to the present time.

Q. 5. If you are able to inform us, you may do so generally, as to about the number of patents that you have examined in the seeding machinery art in its various forms of development.

A. Including corn planters, disk drills, hoe drills, shoe drills and broadcast seeders, I have examined, I should think, probably 5,000 patents.

Q. 6. Confining yourself to the specific form of seeding machinery known as shoe and hoe drills, which appear to be included in the same class in the Patent Office, about how many patents have you examined so as to understand generally the inventions shown and described in them?

A. In the neighborhood of 900 to 1,000 patents.

Q. 7. I will ask you if you have ever examined and studied the Hoyt patent No. 446,230, issued February 10, 1891, so as to understand the invention described and claimed in it?

A. I have examined and studied the Hoyt patent referred to in the question and understand the invention shown, described and claimed therein.

Q. 8. If you have informed yourself so as to state, please tell us the number of patents issued in the class to which shoe drills belong prior to the issuance of the Hoyt patent No. 446,230.

A. I have counted the patents from the beginning, and there were some 500 in round figures—possibly a half dozen more or less—issued in that class prior to the issuance of the Hoyt patent inquired about.

Q. 9. About how fully had the grain drill art, so far as concerns the essentials of shoe drills, been developed at the date of the Hoyt patent?

A. At the date of the Hoyt patent, in my opinion, all of the essentials of a practical and successful shoe drill had been fully developed, minor points being added from time to time by different inventors, which, however, did not affect the real, essential and vital features of construction.

Q. 10. I show you cuts of the complainant's shoe drill as contained in its catalogues, identified by Mr. Fowle, at page 187 of the

complainant's printed record and marked with the initials "A. G. R." for instance, in its 1896 catalogue, so identified, and also cuts of the McSherry shoe drill, as sold by the defendants, as the same is contained, for instance, in the circular received by the Moline Plow Company, December 31, 1895, of which the reading matter is quoted in the deposition of Mr. Martin, and also cuts of the Peoria shoe drill, and ask you to state whether you have examined them and understand the construction and operation of the complainant's and defendants' shoe drills, which, for convenience, I will hereafter designate as the "Dowagiac drill" and as the "McSherry drill," respectively?

A. I have examined the cuts of the shoe drills found in the catalogues and the circular in question and understand the construction and operation of said drills.

Q. 11. I will ask you to analyze a shoe drill and, as a mechanician, to enumerate the necessary, essential or more important features which it must contain as a modern or up-to-date machine, and, as you do so, to refer to patents in the early art and which had expired prior to the first day of January, 1896, when the defendants began to sell McSherry drills, which will serve as illustrations of the embodiment in the art of such necessary, essential and important features.

A. As introductory to my answer, it may be proper to state that the various features of grain drills are the result of inventions, made by different inventors, and embodied, from time to time as the art progressed, in the complete drill. The complete and modern drill may, therefore, be well said to be a "composite" machine; that is, made up of these several independent features embodied in the machine by different inventors.

In the type of grain drills, of which the Dowagiac, McSherry and Peoria machines, to which you called my attention awhile ago, are characteristic examples of the modern composite machine, the following features, elements or combinations are necessary, essential or important, and of a nature to have, during some period in the development of the grain drill art, embodied and contained invention:

1. Carrying wheels adapted for traveling over the ground, an axle for the carrying wheels, a supporting frame mounted on the axle and by which the other appliances of the machine are carried, a tongue for the attachment of the team, a shoe furrow opener, a seed box and a conduit between the seed box and the furrow opener for conveying the seed into the furrow.

This combination of elements is found in the Dowagiac drill and in the McSherry and Peoria drills, and in fact, in all modern shoe grain drills. Every one, however, had the right to use this combination, as it is found fully disclosed in United States letters patent No. 98,213, granted to O. A. Wheeler, December 21, 1869, and which became public property December 21, 1883, as patents prior to 1870 were issued for a fourteen-year term, as I understand. Thus it will be seen that this combination was free and open to the public long prior to the date—January 1, 1896—mentioned in your question.

The next feature entering into modern grain drills and found as an essential feature in construction is:

2. A seed box and a force feed for the grain from the feed-box.

A seed box with a force feed for the grain is found in the Dowagiac drill and in the McSherry and Peoria drills, and, in fact, in all modern grain drills. Every one, however, had the right to use this seed box and force feed, as it is found fully disclosed in patent No. 32,302, granted to J. S. Marsh, May 14, 1861. This seed box and force feed may also be found illustrated and described in different form in patent No. 45,423, issued December 13, 1864, to D. E. McSherry. As I understand, this is the same McSherry as the founder of the McSherry Manufacturing Company, which manufactures the McSherry drills. Still another illustration of the seed box and force feed is found illustrated and described in patent No. 82,026, issued September 8, 1868, to Charles W. Patton. Still another form of seed box and force feed is found in patent No. 98,213, issued December 31, 1869, to Orin A. Wheeler. All of these were fourteen-year patents, and the first one, of course, expired May 14, 1875, and the others at intervals thereafter. For

still another form of seed box and force feed we find an illustration and description in patent No. 200,227, issued February 12, 1878, to Smith & Thomas. This being a seventeen-year patent, of course, expired February 12, 1895. These various patents illustrate various forms and modifications of seed boxes and force feeds, so that on February 12, 1895, and indeed long before that date, and, of course, prior to the date mentioned in your question, the public was afforded quite a variety of choice in selecting the kind of seed box and force feed desired.

The force feed, while accomplishing the end of insuring a positive delivery from the seed box, did not secure the end of a regulated quantity of feed when delivered, and it was necessary, in order to accommodate different kinds of grain to furnish a means for regulating the quantity of grain or seed forced from the seed box, and this was attained in:

> 3. A seed box and an adjustable force feed for the grain from the feed box for regulating the amount of grain discharged by the feed.

This feature of regulating the amount of grain discharged is found in the Dowagiac drill and in the McSherry and Peoria drills, and, in fact, is found in all modern drills. This regulating the quantity of grain discharged is common property and free for all manufacturers of drills to employ, and had been common property for many years prior to the date mentioned in your question, as will appear from an examination of patent No. 32,302, dated May 14, 1861, to James S. Marsh, which shows and describes a construction of seed box with a force feed and means for regulating the amount of grain discharged by the feed. Disregarding other instances, a highly developed construction of adjustable force feed is shown and described in the Smith & Thomas patent No. 200,227, dated February 12, 1878. Under these two patents manufacturers of grain drills, and the public, had the right to select either form shown and described in these two patents, not to mention others, as one of them expired May 14, 1875, and the other February 12, 1895—both before the date mentioned in your question.

The adjustable force feed was an advance in the art and attained the end sought; but it was considered important to apply to the drill means for indicating to the operator the adjustment of the feed and the amount of grain or seed delivered, and for this reason there was added to the construction or combination:

> 4. An accurate gauging of the cups and wheels for the feed and an indicator for enabling the operator to readily and quickly change the amount of seed or grain discharged by each cup and feed wheel.

This feature of accurate gauging of the cup and feed wheel and employing an indicator for gauging the discharge, as a part of the combination, is found in the Dowagiac drill and in the McSherry and Peoria drills, and in most all modern drills, but it was old in the art and open to the public long before the date mentioned in your question—January 1, 1896. It was old in the Marsh patent No. 30,302, of May 14, 1861, which shows and describes a force feed for each seed tube with means for regulating the opening through which the seed is discharged, and an indicator for informing the operator of the state of adjustment and the amount of grain discharged. Another form is found in the Smith & Thomas patent No. 200,227, dated February 12, 1878, which shows and describes a cut-off for gauging the opening from the feed wheel, with an indicator showing the condition of adjustment of the cut-off for informing the operator as to the amount of seed discharged. These patents show two constructions of cut-offs and indicators pertaining to the prior art, both of which were open to manufacturers and the public to be used on seed drills, as both patents, at the date specified in your question, has expired—one as early as May 14, 1875.

The composite machines, making up the modern grain drills to which I have been referred and in regard to which I am testifying, require runners to be set close together in order to plant the grain or seed in the most desirable manner so as to utilize the ground to its maximum capacity and leave but little space for the growing of grass or weeds. Therefore it was necessary to deposit the grain in the furrow behind the runner so as to occupy a small space when

delivered, and to attain this end the grain had to be conducted from the seed box to the runner in a compact way, and also under conditions that would prevent scattering by the motion of the machine or blowing away by the wind, and this end was attained by employing a closed conduit or passageway between the seed box and the runner, which added to the machine as a necessary and practically indispensable element or feature, a connecting conduit, so that we would have:

> 5. A seed box for the grain or seed, a furrow opener—runner or other analogous implement—and a connection between the seed box and the furrow opener.

This arrangement is found in the Dowagiac drill and in the McSherry and Peoria drills, and in all modern drills, but was an old arrangement in the art shown and described in a large number of patents, which had expired long prior to the date mentioned in your question. Among the patents which could be referred to may be mentioned: Patent No. 98,213, to O. A. Wheeler, dated December 21, 1869, and patent No. 193,075, to Brennan, Taylor & Lynam, dated July 17, 1877. One of these patents expired in 1883 and the other in 1894, and by their expiration the manufacturers of seed drills and the public had the right to adopt and use, in the manufacture of seed drills, the construction of seed box, furrow opener, and continuous connection between the seed box and the furrow opener.

The use of the runner or shoe made it desirable to have some means for connecting the front end with the frame or otherwise, so that the runner or shoe would be drawn forward to open the furrow with the forward movement or travel of the machine, and there was added or employed in the machine as a necessary arrangement or combination:

> 6. A runner for opening the furrow formed at its heel end to enable the grain to be deposited in the furrow, a connection between the heel end of the runner and the seed box, and a drag bar for the runner.

This arrangement or combination is found in the Dowagiac drill

and in the McSherry and Peoria drills, and, in fact, in all modern shoe or runner grain drills; but long prior to the date mentioned in your question it had become public property, free for any manufacturer of grain drills and for the public to make and sell.

It may be here mentioned that the prior art discloses two forms of attaching the shoe or runner, one form by extending the forward end of the runner, as shown in the Wheeler patent No. 98,213, dated December 21, 1869, and the drag bar, as shown in the Wheeler & Tuttle patent No. 61,903, of February 5, 1867; the Patton patent No. 82,026, of September 8, 1868, and the Brennan, Taylor & Lynam patent No. 193,075, of July 17, 1877. As will be noticed, the first of these patents expired as early as February 5, 1881, while the last of them expired in 1894, prior to the date mentioned in your question.

It was desirable, in grain drills using runners or shoes, that the runner should be of a shape or formation for accomplishing its work in the easiest and best manner possible. This resulted in the production of a shoe or runner adapted to open the furrow, cut the sod and weeds, ride over trash or obstructions, scour in the soil and draw with little friction, and there was added to the features that we have already discussed this additional idea, so that we have a combination that may be expressed:

> 7. A runner for opening the furrow, having a sharp cutting bottom edge and V-shaped exterior sides with the apex of the V at the bottom and terminating in a heel end to furnish an opening for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, and a drag bar pivotally supported at its forward or draw end to allow the runner to rise and fall as required for uneven ground.

This feature, embracing the combination of elements stated, is found in the Dowagiac drill and in the McSherry and Peoria drills, and is also found in all modern practical drills employing a runner or shoe; but this feature and combination were not new with either the Dowagiac or the McSherry drills. An illustration of this construction is found in the Brennan, Taylor & Lynam patent No. 193,-

075, dated July 17, 1877, which patent expired July 17, 1894. It will, therefore, be seen that at the date mentioned in the question—January 1, 1896—the manufacturer of grain drills and the public had the right to embody in the drills the construction of V-shaped runner with a sharp cutting edge, a boot upwardly extending and a drag bar pivotally supported, such a combination having become public property, with the expiration of the Brennan patent mentioned, in 1894.

In order to allow the runner or shoe to ride over the obstructions and run in inequalities of the ground, some means had to be provided for permitting this movement, and such means would be a yieldable pressure by which the heel of the runner would be held to its work and at the same time allow the rising and falling movement to run over obstructions and in inequalities. This feature of a yieldable pressure is of necessity in a practical and successful seeding machine in order to enable the machine to work on all sorts of ground, and therefore the machine, in order to be practical, was furnished with another feature which equipped it with a combination or construction that may be expressed:

> 8. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a drag bar for the runner pivotally supported at its forward end to allow the runner to rise and fall as required for uneven ground, and a yieldable pressure acting on the runner and allowing the runner to ride over obstructions and to enter depressions.

This combination is found in the Dowagiac and in the McSherry and Peoria drills, but such construction is found exemplified in the older art, for examples of which reference is made to the Patton patent No. 82,026, dated September 28, 1868, and the Brennan, Taylor & Lynam patent No. 193,075, dated July 17, 1877.

These two patents illustrate two methods of employing the combination so as to secure the yieldable pressure in two forms, both of which were free to the public and to manufacturers of grain drills prior to the date of January 1, 1896, the Patton patent having expired in 1882, and the other patent in 1894. Manufacturers

of grain drills and the public, in view of the two patents mentioned, not to mention others, were free to utilize in the construction of grain drills a combination embracing a runner, drag bar and yieldable pressure.

While a yieldable pressure would be effective more or less, a pressure which could be regulated would attain better results in that the running depth of the shoe or runner could be gauged to suit the furrow and the depth of planting and furnish an increased or decreased pressure for operating in hard or soft ground. This desirability of governing the running depth of the shoe by an adjustable yieldable pressure carried into the machines the combination of:

> 9. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a drag bar for the runner pivotally supported at its forward end to allow the runner to rise and fall, and an adjustable yieldable pressure acting to regulate the depth of the furrow and allow the runner to ride over obstructions and enter depressions.

This construction is found embodied in the Dowagiac drill and in the McSherry and Peoria drills, and in all modern shoe drills, but the prior art shows that the construction was not new with the Dowagiac and the McSherry drills. In fact, as early as the Patton patent No. 82,026, of September 8, 1868, we find shown and described a construction having therein the combination in question. This patent expired in 1882, and ever since then manufacturers and the public generally have been at liberty to use the adjustable yielding pressure in connection with the other parts of the grain drill.

It is desirable in the use of seed drills to plant as wide a strip as practical, and for this reason it is a general custom to employ quite a number of furrow openers, runners or shoes with the necessary connections between each runner or shoe and the seed box and the attachment of each runner so as to be drawn forward with the travel of the machine. The runners should each have an independent rising and falling movement, but at the same time some means should be provided by which all of the runners can be elevated and held clear of the ground in traveling from field to field or for other

purposes. This led to the construction of broad drills in which there was employed:

> 10. A plurality of runners each for opening a furrow and each having a heel end for depositing the grain or seed in the furrow, a drag bar for each runner, a yieldable pressure for each runner allowing the runner to rise and fall independently as required for uneven ground, and a lift common to all the runners for raising and holding all of the runners clear of the ground.

This construction is found embodied in the Dowagiac drill and in the McSherry and Peoria drills, and is also found in all modern drills, but a construction of this character is found in the older art embodied in different forms and open to the manufacturers of drills and the public to use in the construction of grain drills. An instance of this construction and combination of parts is found in the Patton patent No. 82,026, of September 8, 1868, and in the Brennan, Taylor & Lynam patent No. 193,075, of July 17, 1877. Both of these patents had expired prior to the date mentioned in your question, the Patton in 1882 and the Brennan in 1894, so that the construction was open to the public.

Owing to the rising and falling movement of the runners or shoes it became desirable to furnish a connection between the seed box and the heel end of the runner or shoe, which would permit of the rising and falling movement without breaking the closed passageway between the seed box and the runner. As a consequence of this desirability of a non-interrupted connection there was carried into the construction of seed drills a combination as follows:

> 11. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, a drag bar pivotally supported at its forward end to allow the runner to rise and fall as required for uneven ground os passing over obstructions, a spring furnishing a yieldable pressure for the runner, a seed box and a continuous, flexible or telescopic connection between the seed box and the boot.

This combination or arrangement is found in the Dowagiac drill and in the McSherry and Peoria drills, and in modern grain drills generally, but it is also found illustrated and described in patents that had expired long before the date mentioned in your question so that it had become free and open to the public to manufacture and sell. A good illustration of this arrangement is found in the Patton patent No. 82,026, of September 8, 1868, which expired in 1882. Practically the same arrangement may be seen in Brennan, Taylor & Lynam patent No. 193,075, of July 17, 1877, which expired and became public property in 1894.

The seed, after being deposited in the furrow formed by the runner, needs to be covered with earth under ordinary conditions of planting, and for this purpose it was necessary to furnish means by which the earth could be returned to the furrow over the seed and in such manner as not to cover the seed too deep. This necessitated the bringing into the seeder of a covering feature as found in the following combination of elements:

> 12. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, a drag bar pivotally supported at its forward end to allow the runner to rise and fall, and a coverer following the heel end of the runner for closing the furrow over the deposited or dropped grain or seed.

This covering feature of grain drills is found in the Dowagiac drill and in the McSherry and Peoria drills, and is also found in some form or other in modern grain drills generally, but the construction of grain drills embodying the feature of furnishing means for returning the earth to the furrow and over the seed is old in the art, and, although not generally shown in patents relating to the art, such showing was evidently not deemed necessary except in instances where the construction related to some special means of attaching the covering device.

This non-showing of covering means is probably largely due to the fact that in the Wheeler & Tuttle patent, No. 61,903, dated

February 5, 1867, which patent expired February 5, 1881, a covering means in the shape of drag chains attached to the heel end of the runner are shown and specifically claimed, and, this patent having disclosed means for covering the seed and taught the world how to do it cheaply and efficiently, it was unnecessary to embody the same in subsequent structures of grain drills, particularly as no claim could be made therefor broadly after the Wheeler & Tuttle patent.

This Wheeler & Tuttle patent, by its expiration in 1881, gave to the public and to the manufacturers of grain drills, the right to apply to grain drills a coverer in the form of chains following the runners, as used in the Dowagiac and the McSherry drills, so that for many years prior to the date mentioned in your question, the public and grain drill manufacturers had the right to make and sell grain drills embodying in their construction the coverer of the Wheeler & Tuttle patent in combination with the other elements mentioned.

It might be well to say in closing my statement as to covering devices that following wheels for the purpose of serving as covers had been used in grain drills prior even to the date of the Wheeler & Tuttle patent, which wheels were old in the art, being shown in patents as far back as the years 1857 and 1858.

All of the above combinations were, in my opinion, at one time in the development of the grain drill art, inventions of a very important and valuable character—not merely mechanical expedients, but inventions forming proper subjects for good and valid patents at the dates when they were introduced into the art respectively. But machines of a composite character like the Dowagiac and McSherry and Peoria drills, in addition to the essential and necessary features, elements and combinations enumerated above, have other features of construction which, when brought into the grain drill art, probably did not, strictly speaking, involve invention and patentability, but they added in a way to the selling and talking qualities of the machine, and still do. Among these structural features may be mentioned:

a. Wide tires for the carrying wheels, giving a bearing surface for the machine to travel over loose, wet or damp ground without sinking in the earth.

b. An axle made of cold rolled steel and revolving with the wheels when the machine is traveling forward.

c. Ratchet hubs for both carrying wheels enabling the machine to turn without stopping the feed, as each carrying wheel will independently drive the axle and operate the feed.

d. A land measure enabling the operator to ascertain the quantity of the land planted.

e. A hitch that will relieve the necks of the horses from the weight.

f. Setting the runners to ride on the point or apex at the heel end, thereby cutting the sod or soil, reducing the friction and preventing clogging under the runner.

All these are valuable features of construction and no doubt contribute materially to the salability of the drills employing them even if they did not technically involve invention and patentability at the time of their adoption and introduction into the grain drill art.

Adjourned until to-morrow morning, September 12, at 9 o'clock A. M.

Chicago, September 12, 1905, 9 o'clock A. M. Parties met pursuant to adjournment. Present, as before.

Direct examination of Mr. Bond continued by Mr. Banning.

Q. 12. Am I to understand that all of the inventions and desirable features of construction that you have enumerated in your answer above are found embodied in the Dowagiac and the McSherry shoe drills?

A. Yes, all of them.

Q. 13. How is it with reference to the shoe drill described and shown in the circular showing and describing the construction of the McSherry and Peoria shoe drills, received by the Moline Plow Company, December 31, 1895, which has been copied, as to its printed matter, in the deposition of Mr. Martin?

A. The McSherry shoe drill illustrated and described in the circular referred to in the question, has therein all of the essential features, arrangements and combinations pertaining to a successful and practical shoe drill as enumerated by me in my answer to question 11.

Q. 14. What would be the effect on a shoe drill as to its practical operative or salable character if there were removed from it any of the twelve essential or important arrangements or combinations that you have enumerated in your answer to question 11?

A. The removal or omission of any of the twelve enumerated essential combinations or inventions would destroy the capacity of the machine to do its work, with the possible exception that the omission of the adjusting means and indicating means, mentioned in my third and fourth enumerations, would not impair the ability of the machine to open a furrow and deposit grain, but such omissions would be a detriment and injury of a serious character, because without adjusting means for regulating the amount of grain discharged and to enable the machine to be used with different grains or seeds varying in size, the operator would be unable to plant successfully different quantities and different kinds of grain or seed, and without the indicator by which the cut-off or gauging of the opening for discharging the seed can be quickly determined and the proper adjustment shown, the operator would have to experiment and set and reset the discharging devices even when adjusting means were used, in order to obtain the proper cut-off or gauge for the opening. In view of the trouble and inconvenience which would result from the omission of an adjustment for the force feed and indicating means for quickly determining the requisite opening for discharging the seed, my third and fourth enumerations are what may be termed commercial necessities and invaluable adjuncts in practical and successful shoe drills.

Q. 15. If you remove from the Dowagiac or McSherry or Peoria shoe drills the inventions and combinations in your twelve enumerations given in answer to question 11, what is there known to the

art to take their place so as to still have a practical and operative shoe drill?

A. Not anything.

Q. 16. On the other hand if the spring pressure device of the Hoyt patent No. 446,230, be removed, what, if anything, could be employed in its place so as to still retain a shoe drill of practical and operative character?

A. The coil spring properly located and supported as disclosed in the art prior to the date of the Hoyt invention and an arrangement of long spring as applied disclosed in some of the patents in evidence issued long prior to the Hoyt invention.

Q. 17. What then do you say as to the dispensability or indispensability in a practical and successful shoe drill of the inventons and combinations contained in your twelve enumerations in answering question 11, and the dispensability or indispensability of the particular spring pressure device of the Hoyt patent in suit?

A. The inventions or combinations embraced in the twelve enumerations referred to in the question are, in my opinion, indispensable in the construction of a practical and successful shoe drill. On the other hand the spring called for in the Hoyt patent could be dispensed with and other pressure devices used in place thereof so as to still have in the drill all of the essential inventions.

Q. 18. I ask you to particularly examine and consider the combinations called for in the Hoyt patent in suit and particularly specified and described in the claims thereof, and state whether or not, in your opinion as a patent expert familiar with the drawings, specifications and claims of patents, you find the inventions described in your twelve enumerations in answer to question 11, called for or described in the claims of such patent or any of them, irrespective of other devices and means forming necessary parts or elements of the combinations specified and described in the claims.

A. No, not in and of themselves.

Q. 19. Please state your opinion as a patent expert as to whether or not the public and manufacturers, sellers and users of grain

drills had the right on, say the first day of January, 1896, not to mention an earlier date, to manufacture, sell and use shoe drills containing or embodying in them the inventions described in the twelve enumerations of essential and important features and combinations set out in your answer to question 11, notwithstanding the existence of the Hoyt patent in suit.

A. They had the open right to make, use and sell shoe grain drills containing the twelve essential and important features and combinations enumerated by me, as, at the date mentioned in your question, such features and combinations were public property and free for everybody to use and in fact had so been for a considerable time.

Q. 20. Please examine the circular quoted in the deposition of Mr. Martin and see how much of it you find devoted to a description of the construction of the spring pressure device for holding the shoes to the ground.

A. That part of the circular referring specifically to the construction of the pressure springs is found on the third page of the circular and occupies three lines of space and contains thirty-nine words, being the fourth paragraph from the bottom of said page.

Q. 21. I find something on the second page that speaks of the spring pressure for the shoes. Please look at that and see whether or not it describes the kind of spring pressure that is used, so that one reading it would know that the spring pressure device contained long rods.

A. The language of the circular to which my attention has just been called refers to applying the spring pressure by means of a lever to all the shoes at once, leaving each shoe, however, with an independent movement up and down to pass over obstructions or drop into depressions, and this description of a lever for the purpose specified is equally as applicable to a coil spring as to a long rod spring. The last two lines of the matter referred to state that by slipping the casting at the forward end of the spring the pressure can be decreased or diminished, which operation would be as well applicable to a coil spring inclining towards the front—a common

arrangement—as to a rod spring. There is nothing in the statements on page 2 of the circular which would indicate or instruct any one to use a rod spring or that the springs were to be of rods.

Q. 22. In your answer to question 11 you laid stress and importance upon a number of features, such as the shape and position of the shoes, the employment of wide tires, ratchet hubs, land measure, hitch, frame, etc. I will ask you to look at these circulars or catalogues of the complainant company, identified by Mr. Fowle on page 187 of the complainant's record, on accounting and by the initials "A. G. R.," and see whether or not you find any stress or importance laid on these various features or to other features than the peculiar spring pressure device of the Hoyt patent in suit.

A. On examination of the catalogue referred to in the question I find in each of them descriptive matter referring to many features other than the spring pressure device, including those enumerated in your question, such descriptive matter commencing as early as the first catalogue, identified as issued in 1888. This 1888 catalogue contains cuts in perspective showing apparently a perfectly practical and attractive shoe drill. I will quote from the descriptive matter of some of these circulars, indicating the year of the circular and the page from which I quote.

On page 7 of the 1888 catalogue I find the following descriptive matter:

> "This drill has a series of runner-shaped shoes placed six inches apart and in two alternate rows.
>
> "Each shoe has a sharp V-shaped bottom which presses the soil at a uniform depth.
>
> "To the top of each shoe is attached a cast boot or hopper through which the grain falls into the furrow immediately behind the shoe.
>
> "To the rear of each hopper is attached a drag or cover chain, consisting of a series of four inch rings, which draws over the furrow and fills it with fine earth.
>
> "Each shoe is attached to the frame, in front, with a double brace and has a free up and down motion, wholly independent of the others, enabling the shoes to follow uneven surfaces and cut the furrows equal depths.

"Each shoe with its hopper weighs about sixteen pounds and ordinarily cuts a furrow deep enough, but should it be necessary in very hard ground six pound weights can be attached. The shoe weights are not furnished with the drills but are supplied by dealers as extras, at 25 cents each.

"A small brace connects the toe of the shoe with the double brace which serves the double purpose of regulating the depth and preventing trash from getting about the shoe.

"Steel or chilled iron shoes are furnished as may be desired, our experience being that the chilled iron shoe is better for sandy loam and steel shoe for clay and prairie soils.

"The frames and all other wood parts except the grain box and wheels are made of selected white ash, and all points nicely fitted and fastened with large lag screws. Mortice and tenon joints being avoided as likely to retain moisture and rot. The seventeen marker or three horse drill frame is supported by heavy truss rod to prevent sagging in the center. The axles are hot polished steel shafts which extend from wheel to wheel, being more durable than iron axles, less liable to bend and creating less friction in the boxes. NO OTHER DRILL IS MADE WITH HOT POLISHED STEEL AXLES.

"The axle boxes are bored out and extend a sufficient distance inside of the drill frame to admit an oil cup which is protected from dust and dirt. The wheels are made with solid iron hub with long tenon on spokes which are best hickory driven in linseed oil. The felloes are of two pieces ash or hickory, rounded on inner side. The tire is two and one-half inches wide and well set to the felloes."

The catalogue then proceeds to describe the grain box or force feed, the grain conductors, the horse hitch, etc.

In the Dowagiac 1891 catalogue, in which I find a cut of the Hoyt spring pressure device, I find great stress laid on the shape and arrangement of the shoe. On page 8 of this 1891 catalogue I find the following description:

"THE DOWAGIAC V-SHAPED SHOE., is the result of twenty-two years' experience and study to obtain the most perfect device possible for forming drill furrows. They are of *lighter draft* than any other because they displace less earth in forming furrows of same depth. *They work well on sod*, cutting into it where the split heel shoe cannot be forced. As made by us they are by far *more durable*, the steel shoe being formed by

two plates welded at the bottom with a third piece of steel between the plates forming a solid shoe one inch up from the lower edge, which gives the shoe sufficient width, where welded to allow the seed to fall to the bottom of the furrow; but in imitations of the Dowagiac shoe, this valuable feature will not be found as the steel plates are simply welded together at the lower edge, necessarily making it thin as far up as welded, which not only lessens its durability, but causes it to form a furrow too narrow to allow the seed to fall to the bottom of it."

On page 11 of this 1891 catalogue I find a sentence pointing out the desirability of the Dowagiac shoe, as follows:

"To purchasers who have not had experience with shoes we recommend the V shoe because it requires no more than half the power to draw it through the ground, will work better in wet ground, presses the bottom of the furrow, and conveys the seed to the bottom of the furrow fully as well."

On page 16 of this 1891 catalogue I find stress and importance laid on facilities for obtaining repairs which exist in dealing with responsible parties, as follows:

"Another consideration is the question of obtaining repairs, no manufacturer with but few machines in use will keep a large stock of repairs in agents' hands, and while the machines are yet untried and but partially tested, weak parts are likely to develop and breakages occur, then follows the usual delay in having the agent send to the factory or headquarters for the repairs in the midst of seeding when time is valuable. The purchaser of the Dowagiac takes no such chances, as all agents selling this drill in carload lots carry constantly on hand a full line of repairs."

Referring to the Dowagiac 1895 catalogue I find on page 2 a cut of the Dowagiac shoe, with a statement reading as follows:

"The vital part of a shoe drill is the runner. It has proved to be the weak part in nearly all of the condemned ones. It is a strong point of the Dowagiac; well made, nicely fitted, perfectly adjusted and attached in a practical way."

On page 3 of this 1895 catalogue I find the desirable features of the shoe pointed out and emphasized as follows:

"The Dowagiac shoe is the result of many years experience

and careful study to obtain the most perfect device for forming drill furrows. It is a perfect trash rider, lighter in draft than a hoe drill or seeder marker, something which works perfectly in wet as well as dry ground; cuts into the sod and deposits the seed where nothing else will work at all."

On page 7 of this 1895 catalogue I find a great deal of stress laid on the matter of a feed for distributing the grain as follows:

"EVEN DISTRIBUTION OF SEED in the ground is as essential in the results obtained as uniformity of depth, and in economy of seed is the important feature, which can only be accomplished with each and every variety of seed, in any and all conditions by sowing in rows close together, with a positive force feed, and such a one as will cause a regular and even discharge of the seed, thus giving to each individual seed equal advantages with its neighbor, which produces a uniform germination, growth and maturity. Of grain drill feeds there are two distinct kinds, the cylinder feed and the disk feed. The former consists of a corrugated cylinder, which forces the seed from the shell, and a sliding gate which regulates the quantity sown. The disk feed consists of a vertical plate having projections from the side, which forces the seed through an opening of fixed size and the quantity is regulated by the speed of the disc. Both types of feed are well known and *either do good work when well made and properly adjusted.* Some leading manufacturers of drills have repeatedly changed from one to the other, but *owing to the complicated attachments of the disc feed, which are necessary to regulate the quantity sown, and on account of the simplicity of the cylinder feed, which requires no complicated attachments, we use the cylinder feed exclusively.* It is just as accurate and less likely to get out of repair. We have perfected it in many points, and now claim the Dowagiac feed to be as perfect a distributor of all grain sown with a drill as can be made. The objection to cylinder feeds has been in wearing of the ends of the cylinders which permit seed to work between the two and crack or grind; and to remedy this, some use a notched washer at the outer end of the cylinder, and depend upon the user to turn this washer for taking up the wear; the farmer seldom turns it, and if he does the means are not sufficient to keep the parts *tight*, because there is too much difference between notches. *In the Dowagiac feed this objection is entirely overcome by the chilled cylinder, which reduces the wear, and by the coil spring which takes up*

any wear there may be and always keeps the parts together."

On page 9 of this 1895 catalogue a cut and further reference to the qualifications of the force feed of the Dowagiac drill are found, as follows:

"THE *Dowagiac* FORCE FEED GRASS SEEDER ATTACHMENT Is made for each size and kind of drill built by us. This feed —like the Dowagiac Grain Feed—is a cylinder feed. *Chilled to prevent wearing and so closely fitted as to make leakage impossible.*

"The grass attachment is fastened to the front of the grain box with two screws and readily attached or detached.

"All Dowagiac Grass Seeder Attachments are now made with the same number of feeds as are on the grain box. *The seed can be sown broadcast or drilled in rows as desired.* For sowing in rows the seed is carried through tubes into the rubber grain conductors and from there through the shoes, the same as grain from the large box. This feature of the seeder is greatly appreciated by many farmers who sometimes desire to drill small seed.

"The construction of this device is shown by the accompanying cut, as arranged for sowing in rows. For sowing broadcast the small tube is removed and the seed falls upon the surface of the ground in front of the shoes.

"*For sowing Alfalfa no device in existence equals the Dowagiac Shoe Drill with this attachment.* It has been used for this purpose two years, and has been a great success from the time of its first trial. The many words of praise from those who have used it are proof of its merit. They declare the Dowagiac V Shaped Shoe to be just the thing for making the seed-bed, and the Seeder Attachment what they had tried to get before."

On page 15 of this 1895 catalogue I find a description of the construction of the wheels, axle, frame and various other parts of a grain drill, as follows:

"GENERAL CONSTRUCTION OF THE *Dowagiac*.

"WHEELS. The wood wheels have solid hubs, drilled and rimmed the entire length, with bearing of 6 inches on the axle. Hickory spokes, ash rims, with tire ¼ inch thick. The 11, 13 and 15 Drills have 2½ inch tire, and all larger size, 3 inch.

Metal wheels have malleable hub and box, straight spokes, and same tread as the wood wheels.

"Ratchet hubs have been much advertised, but in straight-way seeding are utterly useless and have the objection of a much shorter hub (about 3½ inches), as the cap bearing does not support the wheel.

"AXLE. The axle is a continuous 1⅜ inch steel shaft revolving in heavy boxes. With one tight wheel and one loose, the axle revolves with the wheels, except when turning; hence but little wear in the hub of the loose wheel only.

"FRAME. Made of best white ash, thoroughly seasoned and joined (not mortised), thoroughly braced and trussed. A Dowagiac Drill Frame has never been known to rot, twist, break or cause trouble in any way, although many have been in use more than twenty years.

"*They are stronger and stiffer than any metal frame of equal weight*, especially on wide drills.

"For short spans, metal is a success, and we use steel frames for our Hoe Drills and Seeders, which are smaller; but for wide frames we have yet to see one made of metal equal to the Dowagiac Ash Frame.

"BOX. The box is of Michigan white wood with metal ends which bolt to the frame.

"GEAR. The 17, and all larger sizes, are double geared. The feed shaft is in two sections, and each wheel drives half the feeds. This is a great convenience in sowing narrow strips and finishing fields, as either half of the drill can be worked alone by raising the shoes of the other half.

"METAL PARTS. But little gray iron is used. Nearly all light castings are malleable; draw bars and lever, steel; and pipe roller, wrought iron. No better springs can be made than Dowagiac Shoe Springs.

"FINISH. The Dowagiac is recognized as being the finest fitted and best finished Grain Drill made. Only the best material is used, and it is applied by skilled workmen. Its fine appearance is significant of many other superior qualities, which has given it the place of 'Leader of Grain Drills.'"

On page 19 of this 1895 catalogue I find an enumeration of reasons why the Dowagiac shoe drill is popular, as I understand it is claimed to be, as follows:

"*Why* THE DOWAGIAC IS LEADER.

"It sows at any desired depth; at a uniform depth, and evenly distributes the seed in the ground.

"It will not clog with stubble or other trash, but presses it into the ground and passes over it.

"It works with less horse-power than any other seeding machine in existence.

"It works well in all kinds of ground, whether wet or dry.

"Strong winds do not interfere with its work. The seed is protected from the time it leaves the feed until it leaves the shoe at the bottom of the furrow.

"It sows in rows so close as to utilize all the ground and leaves little room for weeds to grow.

"It is *simple*, *practical* and *effective*, combining the acknowledged elements of success which are divided among its competitors.

"*The Dowagiac Shoe Drill offers to growers of grain more advantages, greater durability and better results than can be found in any other seeding machine.*"

In the Dowagiac 1896 catalogue on page 2 I find the statement repeated that

"The vital part of a shoe drill is the runner. It has proved to be the weak part in nearly all of the condemned ones. It is a strong point with the Dowagiac; well made, nicely fitted, perfectly adjusted and attached in a practical way."

In fact the page seems to be a literal repetition of page 2 in the preceding catalogue where we are told that "The vital part of a shoe drill is the runner."

Referring to the Dowagiac 1898 catalogue I again find the statement repeated that

"The vital part of a shoe drill is the runner. It has proved to be the weak part in nearly all of the condemned ones. It is a strong point with the Dowagiac; well made, nicely fitted, perfectly adjusted and attached in a practical way."

In the Dowagiac 1899 catalogue I find on page 6 that importance and emphasis are again given to the shape and position of the shoe. This page is provided with three cuts showing different styles and

shapes of shoes, and the reading matter, among other things, says:

> "No. 1 of the accompanying cuts shows the Dowagiac V shoe, which has so successfully fulfilled all of the requirements for a runner furrow opener that it is now closely copied by all manufactures of Shoe or Press Drills. We make the cast boot to receive either steel or chilled iron shoes, and recommend the latter for gravel and sandy soil as more durable."

On page 8 of this 1899 catalogue I find importance and stress laid on the means for properly distributing and depositing the various kinds of seed to be planted with the drill, as follows:

> "Even distribution of seed is essential to best results, as well as uniformity of depth or the manner of planting. Even distribution of any and all kinds of seed, in different conditions, by a drill cannot be expected unless the feeds are properly constructed and perfectly fitted. Among the many force feeds in use there is one having ample capacity for all requirements; revolving on chilled bearings and ground to a perfect fit, and held in place by a spring, which keeps it ever the same closely fitted feed to prevent the cracking and grinding of seed. It is the *Dowagiac* Force Feed. There are many feeds as closely fitted and as well made as shown here, *but* they are all on *Dowagiacs*."

On page 10 of this 1899 catalogue I find the importance of having the right kind of a frame pointed out and emphasized at length, as follows:

> "The frame of a machine bears the same relation to the machine that the foundation of a building does to the complete building. If not substantial the whole structure is in danger regardless of the strength of the other parts. The 5-inch Angle Steel used by us for all steel frame Drills and Seeders, leaves no doubt about the material, while the solid bent corners, thorough bracing and heavy center girt, makes the stability of the *Dowagiac* steel frames beyond question.
>
> "Next to the frame in point of durability is the Axle, for which we use 1⅜ inch hot polished steel shafting, extending from wheel to wheel, revolving with the wheels in heavy solid boxes.
>
> "The wheels, either wood or metal, are fully four feet, with wide tire and six-inch hubs, drilled and rimmed their entire length, thus completing a very strong carrying part for a

Drill or Seeder, which having proved thoroughly reliable on *Dowagiac* 26 shoe drills with pressure wheels (weight 1700 lbs.) insures its durability on all smaller sizes.

"The hitch is low and adjustable, permitting the use of only sufficient neck weight to keep the end of the pole down."

On page 11 of this 1899 catalogue I also find the value and importance of the steel frame as contrasted with a wooden frame pointed out and emphasized, as follows:

"The following pages show some sizes of *steel frame Dowagiacs.* It was several years after the advent of steel drill frames before we succeeded in the production of one likely to keep good the unparalleled record made by our wood frame machine, during which time many pages of competitors' catalogues were devoted to their steel frame in an effort to make the frame appear to be the whole drill, and other parts mere trimmings, but since the appearance of the *Dowagiac*—heaviest and strongest steel frame made, that part of the drill seems to be somewhat neglected by many. It is now our time to talk steel frame, but we will do so only briefly. The *Dowagiac* Steel Frame is unquestionably the strongest one made for seeding machinery. No steel frame is as stiff as a *Dowagiac* Wood Frame of equal weight. Either one of ours will do its part well and outlast all other parts of the machine—what more can be desired?"

On page 12 of this 1899 catalogue I find emphasis laid on the force feed grass seeder attachment as a part of the Dowagaic drill. Although I have already quoted substantially the same language from the 1895 catalogue, yet I will quote it again to show that the value and importance of this feature was still regarded and recognized as of sufficient importance to devote a page of the catalogue to it. The matter reads as follows:

"The Dowagiac Force Feed Grass Seeder Attachment Is made for each size and kind of drill built by us. This feed—like the Dowagiac Grain Feed—is a cylinder feed. *Chilled to prevent wearing and so closely fitted as to make leakage impossible.*

"The grass seeder attachment is fastended to the front of the grain box with two screws, and readily attached or detached.

"All *Dowagiac* Grass Seeder Attachments are now made

with the same number of feeds as are on the grain box. *The seed can be sown broadcast or drilled in rows as desired.*

"For sowing in rows the seed is carried through tubes into the rubber grain conductors and from there through the shoes the same as grain from the large box. This feature of the seeder is greatly appreciated by many farmers who sometimes desire to drill small seed.

"The construction of this device is shown by the accompanying cut, as arranged for sowing in rows. For sowing broadcast the small tube is removed and the seed falls upon the surface of the ground in front of the shoes.

"*For sowing Alfalfa no device in existence equals the Dowagiac Shoe Drill with this attachment.* It has been used for this purpose for years, and has been a great success from the time of its trial. The many words of praise from those who have used it are proof of its merit. They declare the *Dowagiac* V Shaped Shoe to be just the thing for making the seed-bed, and the Seeder Attachment what they had tried to get before."

Referring to the Dowagiac 1900 catalogue we find on page 5 a historical statement in reference to the Dowagiac shoe drills, from which we quote:

"The advent of the Dowagiac Shoe in 1866 was a departure from all furrow openers then in use. Its advantages were obvious. It did not clog with trash but pressed it into the ground and passed over it; rode over obstructions, returning immediately to its work; drew steadily through the ground, thereby depositing the seed at a uniform depth in rows as close together as desired. It met with favor and has ever since been almost exclusively used in some sections. It was not, however, well adapted for use in hard ground while depending upon its weight alone for forcing it into the soil, and until equipped with spring pressure to fully regulate the depth of sowing its use did not become general. Several kinds of springs ar now employed for shoe pressure, all of which put more or less pressure on the shoes but differ radically in the range of action left for the shoes when the pressure is applied, also in ease of operation and in durability."

On page 13 of this 1900 catalogue I find a repetition of the statement that "the frame of the machine is the foundation of the struc-

ture" which I have already quoted from the 1899 catalogue, but as it appears to be a literal repetition I forbear to quote it again.

On page 25 of this 1900 catalogue I find a repetition of the language that I have already quoted from a preceding catalogue to the effect that "even distribution of seed is essential to the best results," but for brevity will not repeat the quotation here.

Referring to the Dowagiac 1902 catalogue I find under the heading "General Construction of the Dowagiac" a description of the metal frame, the wheels, the axle, the hitch, the gear, the seed box, the metal parts, and the working parts, on all of which parts importance and emphasis are laid, but as I have already quoted from a preceding catalogue the same matter almost, if not literally in the same language, I refrain from quoting it again at this point.

I also find in this catalogue substantially the same statements that I have already quoted in reference to the Dowagiac grain feed, the force feed grass seed attachment and other matters, but do not deem it necessary to quote them here. This is also true as to the Dowagiac 1903 and 1904 catalogues.

The foregoing quotations from the various catalogues point out and designate many valuable and essential features of construction pertaining to the Dowagiac shoe drill and which it would appear from the quotations the manufacturers of said drill considered necessary and important to the construction of the drill, both as regards its operativeness and practical working and its salable qualities. The catalogues, from the quoted portion thereof, show conclusively that the manufacturers of the Dowagiac drill considered and regarded the runner or shoe as to its peculiar structure a meritorious and valuable element in a grain drill; in fact they frequently speak of it as "the vital part of a shoe drill;" the wooden frame at first and subsequently the metal frame was regarded as of importance; the feed attachments both for grain and for seed are set forth in strong language and evidently regarded as a feature of great value and importance; and the broad tread of the wheels, the hitch and other points of construction are brought out as adding to the Dowagiac drill in the matter of its commercial value and salability. All of

these features, from the showing of the quoted language of the catalogues, were deemed of sufficient value and importance to require somewhat lengthy descriptions of each and extolment of the merits in reference to making the drill efficient and practical for use with different kinds of earth and the sowing of grain and seed. All of them furnished strong talking points, doubtless assisting the salesmen in extolling the merits of the Dowagiac drill in making sales of the same.

Adjournment was here taken until tomorrow morning, September 13, 1905, 9 o'clock A. M.

Chicago, September 13, 1905, 9 o'clock A. M. Parties met pursuant to adjournment. Present, as before.

Direct examination of Mr. Bond continued by Mr. Banning.

Q. 23. Near the close of Mr. Fowle's deposition a number of patents were referred to as being in existence during the period in the accounting in this case, or a portion of such period, which patents were supposed to cover various features in the Fountain City drill, the Havana Press drill, the Monitor drill, and the Van Brunt drill, and thereby prevent such drills from being considered as free and open to the public. These patents were as follows:

As covering features contained in the Fountain City drill, patent No. 386,394, issued July 17, 1888, to Charles Fockler; patent No. 488,072, issued December 13, 1892, to R. P. Howard; and patent No. 672,476, issued April 23, 1901, to E. O. Edwards.

As covering features in the Havana Press drill, patent No. 297,961, issued May 6, 1884, to J. L. Ashhurst.

As covering featurts in the Monitor drill, patent No. 412,808, issued October 15, 1889, to W. A. Van Brunt; and patent No. 746,432, issued December 8, 1903, to E. H. Ackerman.

As covering features in the Superior drill, patent No. 404,108, issued May 28, 1889, to Patrick & Packham; and patent No. 429,320, issued June 3, 1889, to F. R. Packham.

As covering features in the Tiger drills, patent No. 410,768, issued September 10, 1889, to J. S. Rowell; patent No. 669,664,

issued March 12, 1901, to T. B. Rowell; and patent No. 672,916, issued April 30, 1901, to J. S. and S. W. Rowell.

As covering features in the Van Brunt drill, patent No. 461,292, issued October 13, 1891, to D. C. and W. A. Van Brunt; patent No. 490,728, issued January 31, 1893, to W. A. Van Brunt; and patent No. 676,593, issued June 18, 1901, to W. A. Van Brunt.

Have you examined these various patents so as to understand the construction and operation of the inventions described and claimed in them?

A. I have examined the several patents refererd to in the question and understand the invention summed up in the claims and described in each of them.

Q. 24. Please give us your opinion as to the essential or non-essential, the dispensable or indispensable character of the various improvements claimed and patented in these various patents enumerated in my question.

A. The inventions found, shown, described and claimed in the several patents are for features of construction which can be dispensed with and other features employed in the place thereof, and, in my opinion, the inventions summed up in the claims of said several patents are for features non-essential in that the elements which enter into the combination of the claims can be replaced with other elements found in the prior art, and this without destroying or impairing the essential features of construction which I have heretofore enumerated as necessary for a practical and successful seed drill. In short, I regard the devices of these patents simply as other or additional means or ways of accomplishing the desired results over and above those which were already free and open to the public through the expiration of prior patents.

Q. 25. I notice that some of these patents are of very recent date—the Ackerman patent, for instance, was issued December 8, 1903, and will not expire until December 8, 1920—and if the public is not at liberty to manufacture and sell a practical and successful shoe drill until the expiration of every patent on minor details and im-

provements, what will be its condition when the Hoyt patent itself expires February 10, 1908?

A. The public would still be unable to manufacture seed drills containing the essential features of construction.

Q. 26. Please examine and give us the facts as to whether there have been patents issued for improvements in the class to which shoe grain drills belong subsequent to the date of the Ackerman patent, December 8, 1903, and if so, how many patents have been issued since that time?

A. I have information down to and including October 4, 1904, a period of less than a year from the date of the Ackerman patent, and in that period of time fifty-four patents were issued in the class to which shoe drills belong. By examining the Official Gazette subsequent to that time I could ascertain how many more have been issued, if desired.

Q. 27. As a solicitor of patents of some thirty years' experience, what have you to say as to when an art like that of shoe grain drills, for instance, becomes exhausted so that no further patents for improvements, or supposed improvements, in details of construction are to be expected?

A. I do not believe that an art like shoe drills would become so exhausted, at least during this century, that minor features of construction embodying combinations of elements, some new and some old, could not be made the proper subject for obtaining patents therefor, but such patents would only be construction patents not covering essential and necessary features required in the construction of a practical and successful shoe drill. In fact I believe that all such features are now and for many years have been free and open to the public.

Defendants' counsel offered in evidence the McSherry catalogue or circular received by the Moline Plow Company, December 31, 1895, the reading matter of which is quoted in the deposition of Mr. Martin where the galley proof of the same is quoted.

Defendants' counsel also offered in evidence the various patents referred to by Mr. Bond in answering question 11, namely:

No. 32,302, issued May 14, 1861, to James S. Marsh.

No. 45,423, issued December 13, 1864, to D. E. McSherry.

No. 61,903, issued February 5, 1867, to Wheeler & Tuttle.

No. 82,026, issued September 8, 1868, to C. W. Patton.

No. 98,213, issued December 21, 1869, to O. A. Wheeler.

No. 193,075, issued July 17, 1877, to Brennan *et al.*

No. 200,227, issued February 12, 1878, to Smith & Thomas.

As it is not convenient for complainant's counsel to proceed at this time to cross-examine the witness, adjournment is taken until such day in the near future as will be convenient for him to do so, at which time it is understood that he will state his objections, if any, to the foregoing questions and answers and that the witness will be produced for cross-examination.

Chicago, September 28, 1905, 9:30 o'clock A. M. Parties met by agreement.

Mr. Chappell proceeded to state his objections to the foregoing questions and answers, and then cross-examined the witness without waiver of such objections.

By Mr. Chappell: The testimony of the witness, so far as it relates to the exhibit patents offered in evidence, viz., the patents to Marsh, McSherry, Wheeler & Tuttle, Patton, Wheeler, Brennan *et al.*, and Smith & Thomas, is objected to as not timely; such testimony, if introduced at all, should have been made a part of the main case before the interlocutory decree herein.

The testimony of the witness, so far as the effectiveness and utility of the devices of the said various patents, is objected to as not competent, being the mere conclusion of the witness, the witness not having been shown to be an expert so far as the operativeness and practicability of such devices is concerned.

The testimony so far as it relates to the mere parts of the combination of the Hoyt patent in suit, as pointed out in the first three claims thereof, is objected to as immaterial.

X-Q. 28. What has been your actual experience in farming operations, what experience have you had in the use of grain drills or other seeding machinery, and what experience, if any, have you had in the territory known as the Northwest, in both farming operations and in connection with seeding machinery?

A. At the time I was on a farm, about the only grain drill used was broadcast seeders; and as to my practical experience with seeders in use in planting, I have had none except to see them in operation. I know nothing about the requirements in the Northwest from personal experience.

X-Q. 29. When did you leave the farm, and what experience had you had on the farm before you left the farm?

A. I was on the farm every summer from the time I was five years old up to the spring 1861—summer of 1861; and, of course, being then a boy, my duties on the farm were not very great, but still sufficient to know what was needed in the way of farming implements at that time in use. I might say that since I became connected with my present profession I have seen in operation nearly every form of farm implement for planting and tilling, such use being experimental for the purpose of showing me the actual operation of the different machines.

X-Q. 30. You left the farm, then, when you was fifteen years old; is that right?

A. Yes.

X-Q. 31. Where was this farm located that you was familiar with up to the time you was fifteen years old?

A. Edinburg, Portage County, Ohio.

X-Q. 32. Please state instances in which you have seen seeding machinery in operation experimentally.

A. One instance, I think, was at Peoria, Illinois; another instance was at Laporte, Indiana; other instances were around Chicago, and I think also at Sterling, Illinois. I might say that the

grain drills I saw at the different times were of the type generally of what is known as hoe drills, and my recollection is that most of the experiments were in connection with the feed for the grain.

X-Q. 33. These experiments to which you refer were not actual field tests, were they?

A. If you mean by field tests a team hitched to the machine and the machine operated with the hoes in the ground, they were field tests. If, on the other hand, you mean planting several acres with the machine, they were not field tests.

X-Q. 34. When did the last of these observations occur?

A. I think in 1891.

X-Q. 35. Where did that occur?

A. Just outside of Chicago, where I went with Mr. Hoffheims, who was interested in some grain drill patents and wanted to make an examination as to the operation of a grain drill for the purpose of having me interview some manufacturers on the question of infringement.

X-Q. 36. To what part of the drill did this investigation relate?

A. The feed.

X-Q. 37. Did you find that there was something novel about this feed?

A. After an examination by Mr. Hoffheims himself, he concluded that the matter was not worth following up, there being a large number of feed mechanisms.

X-Q. 38. From your experience and observation, how long has there been in use successful and effectively operative feed mechanisms for grain-seeding machinery?

A. That would depend entirely upon the fact as to whether it was a regulated feed or a general feed. Feed mechanisms for operating machines of a practical nature have been in use ever since I have had and knowledge of corn planters and grain drills. I would not like to say positively when the first regulated feed for a grain drill came into use, but probably some twenty years ago. It may have been crude at that time and required further improvement to

bring it to the condition of the perfect grain feed mechanism of today.

X-Q. 39. Then you don't consider the feed of the Marsh patent as a successful and effectively operative regulated feed for a grain drill, do you?

A. Yes, for the period of time of the Marsh patent; that is, in 1861. No, as to the present type of force feed. The Marsh patent employs a feed having a roller with cups or recesses into which the grain is received from the box and by the revolution of the roller deposited into a tube for delivery to the furrow formed by the hoe. It would be, in my opinion, a practical force feed, in that it would receive and deliver a specified amount of grain or seed.

X-Q. 40. I call your attention to the patent to Will F. Hoyt, of March 7, 1893, No. 492,802, and ask you whether or not you would classify that feed in the same class with the feed of the Marsh patent just referred to?

A. It is of the general type of force feed found in the Marsh patent, perfected and improved as to the fitting of the cups, rollers, etc.

X-Q. 41. In what particular feature other than that of degree do you regard that Hoyt patent as an improvement on the Marsh patent?

A. The question of degree is one somewhat difficult to determine. If by degree is meant better or worse, then the force feed of the Hoyt, in respect to the specific construction of the feed wheels and the cups and the inclosing casing, is an advance in the art over that found in the Marsh patent, so far as can be judged by the drawings of the Marsh compared with the drawings of the Hoyt. The Hoyt force feed appears to have a close bearing between the cup and the feed wheel, and this bearing is maintained apparently by means of coil springs on the driving shaft of the feed wheels. This feature of a close fit, and maintaining the fit, is lacking in the prior Marsh patent. Broadly considered as a force feed, the Hoyt is no better than the Marsh; specifically considered as to features of construction, the Hoyt is an improvement on the Marsh.

X-Q. 42. Do you regard the spring to which you have referred in the Hoyt patent as an indispensable element to a good feed?

A. I would hardly think so. The spring could be dispensed with and you would still have a practical force feed.

X-Q. 43. As I understand you incidentally to your discussion, you have never had any practical experience with shoe drills as distinguished from hoe drills, and further that you have never had any practical experience with drills of any description in the Northwest, and that your experience in the Northwest has not even been an experimental one; is that right?

A. That is correct.

X-Q. 44. Considering in your answer to Q. 11 you have stated certain essentials which you think enter into all successful modern grain drills, among those are numbered 1, carrying wheels adapted for traveling over the ground, an axle for the carrying wheels, a supporting frame mounted on the axle and by which the other appliances of the machine are carried, a tongue for the attachment of the team, a shoe furrow opener, a seed box and a conduit between the seed box and the furrow opener for conveying the seed into the furrow. When did you first become familiar with this matter as an essential of the modern grain drills?

A. I think in the year 1877, when I made an exhaustive examination as to the then state of the art in grain drills. That examination, as a necessary sequence, would show any one familiar with farming machinery that the elements set forth in the question were necessities in the construction of a practical grain drill, although, of course, instead of runners, other furrow openers could be used and still have a practical grain drill. The frame, the carrying wheels, the tongue, are certainly as necessary to a grain drill as are the seed box, the depositing tubes and the furrow opener.

X-Q. 45. Please define what you denominate carrying wheels.

A. The wheels which run on the ground and support the axle and transport the machine over the ground.

X-Q. 46. Are these carrying wheels always necessary to a grain drill?

A. Yes, for a wheeled drill; no, for a runner drill or a drill in which no wheels are employed.

X-Q. 47. Please explain how they are dispensed with in the runner drill to which you refer, or how they may be dispensed with.

A. The runners take the place of the wheel in supporting the axle and frame in traveling over the ground.

X-Q. 48. Can you name any such type of drill that you are familiar with?

A. No.

X-Q. 49. Where did you ever see a grain drill like that appearing in the patent to O. A. Wheeler, issued December 31, 1869, No. 98,213, to which you have referred in your direct testimony?

A. O. A. Wheeler, No. 98,213? I do not recall ever having seen a grain drill of the exact construction shown in the said Wheeler patent.

X-Q. 50. Do you think such a structure would be an effective grain drill?

A. It would probably plant grain and would be operative to a certain extent.

X-Q. 51. State whether or not this grain drill ever went into extensive commercial use, or any commercial use.

A. I could not state.

X-Q. 52. It never did so far as you know, did it?

A. No, sir.

X-Q. 53. In making the investigation to which you have referred in your direct testimony you did not investigate as to that matter; is that right?

A. My testimony as to the Wheeler construction of grain drill was based solely on what is shown in the Wheeler patent, and not from any practical knowledge or experience with a grain drill constructed under the Wheeler patent.

X-Q. 54. You made no attempt at any investigation as to whether that went into commercial use or not, did you?

A. No, sir.

X-Q. 55. I note that on page 6 you say: "The next feature"—

typewritten page 6 of your testimony—you say: "The next feature entering into modern grain drills and found as an essential feature in construction is: 2. A seed box and a force feed for the grain from the feed box." Your testimony does not seem to indicate very clearly a first feature. Will you please explain what it was that you had in mind as a first feature? The numbered paragraph to which I have just referred as number 1 does not seem to refer to any particular feature, was the reason I ask this question.

A. The language quoted in the question, viz., "The next feature," referred merely to the pointing out of what I regarded as the feature to be considered after some one had constructed a grain drill having the appliances of the first statement made by me. It is not to be understood that by "next feature," as found in the quoted matter of the question, was meant some feature which followed some other feature, but merely the next feature to be considered. The seed box and the force feed might have been in existence, and possibly were, before the introduction of a successful runner shoe; and therefore the next feature would not necessarily mean a feature following some previously enumerated feature.

X-Q. 56. As I understand you, in considering this next feature, which appears in the paragraph numbered 2, that feature has essentially been known since May 14, 1861, the date of the Marsh patent; is that right?

A. Yes, the seed box and the force feed are shown in the Marsh patent.

X-Q. 57. And that is a regulated feed, as you denominate it, isn't it?

A. Yes, it is regulated by increasing or decreasing the opening from the seed box to the feed wheel or roller.

X-Q. 58. The adjusting feature is brought into consideration in the paragraph numbered 3, as I understand it.

A. Yes.

X-Q. 59. Still further considered in the paragraph numbered 4, appearing on typewritten page 8 of your deposition?

A. Yes, with the addition of an accurate gauging of the cups and wheels for the feed.

X-Q. 60. That appears in the Marsh patent also, as I take it from your answer?

A. Yes, as to the force feed and the regulating means, and possibly as to the accurate gauging of the feed wheel and cup.

X-Q. 61. The second, third and fourth essential features that you refer to are variations and developments of the force feed, are they not?

A. Yes.

X-Q. 62. Why did you make three separate divisions of that?

A. So as to have a clear understanding of the various features of a force feed, viz., an ordinary force feed, comprising a roller and cups, without any regulating means for the amount of grain or seed received into the cups; second, regulating the amount of grain received into each cup by increasing or decreasing the delivery from the seed box so as to have the same feed accommodate different kinds of grain; third, enabling the operator to readily distinguish and ascertain the adjustment or gauging of the force feed without the necessity of experimenting in setting and resetting the parts. The several features finally resulted in a perfected force feed having the various features enumerated in the three heads 2, 3 and 4 therein.

X-Q. 63. But were not all these features in the very first grain drill you referred to appearing in the Marsh patent of May 4, 1861?

A. Yes, possibly, but still that would not interfere with separating the various features out into the several heads which I considered valuable and essential in a force feed.

X-Q. 64. But this division does not, as a consequence, indicate any distinct steps in the advance, if all of these features appear in the first patent to which you refer, does it?

A. The first patent may not have been the Marsh patent. There may have been, and probably were, prior patents having a force feed—that is, a grooved roller or wheel and a trough or seed cup. The Marsh patent was selected as showing an embodiment of the

various features enumerated in 2, 3 and 4 in a grain drill patent at an early date. It would not interfere with my enumerating as No. 2 a seed box and a force feed, but would merely show such combination as being old in the art.

X-Q. 65. How many different patents did you refer to specifically in making your investigation before you gave your direct testimony—that is, in preparation to give the testimony in this case?

A. I examined all the patents in the sub-class of grain drills, covering hoe and shoe drills, which are classified in the same sub-class. I think there was something like 1,000 patents in this sub-class.

X-Q. 66. That examination was made to enable you to note the development of grain drills, was it not?

A. That examination was made for the purpose of familiarizing me with the general state of the art in grain drills—that is, shoe and hoe drills—from the date of the first patent down to the date of the last patent issued that I examined, and for the purpose of enabling me to see what features entered into grain drills of the hoe and shoe sub-class or type in a general way.

X-Q. 67. How did it happen, then, if you were measuring the development of the art in steps as you have indicated in these paragraphs numbered 2, 3 and 4, that you did not select the patents that marked that development rather than one patent which showed all the steps, viz., the Marsh patent?

A. If it had been my purpose to show the gradual development of the grain drill art from the beginning, I would have done as stated in the question; but inasmuch as my investigation was intended to show the necessary and essential features found in the grain drill art of shoe and hoe drills, I did not consider it necessary to point out step by step and in consecutive order the various steps or features of the development. The necessary features could be pointed out as disclosed in the prior art without the necessity of showing a step-by-step development of that art—that is to say, the investigation would show that carrying or transporting wheels, an axle, a frame, a tongue, a seed box, a feed and a furrow opener

were necessary adjuncts or features in the construction of grain drills as disclosed by the prior patents, and this without a showing of the step-by-step development of these various features.

X-Q. 68. Would you be able to refer to the patents that indicate the step-by-step development from the investigation you have made?

A. It would be possible to do so, but inasmuch as the patents to which I have referred show the development and the combined features I can see no reason for enumerating the entire list of prior patents having some one or the other of the features or combinations therein, and especially so as the features or combinations are shown in some form in the Marsh patent referred to.

X-Q. 69. In considering the matter of the force feed as pointed out in paragraphs 2, 3 and 4 you have referred to, so far as I note, the patent to Marsh, to McSherry, to Patton, to O. A. Wheeler, and to the Smith & Thomas patent. I will ask you to kindly consider the claims of those patents and state whether or not you find the structure pointed out in any of the claims of these patents occurring either in the McSherry drill or in the Dowagiac drill, so far as you are acquainted with such structures, it being assumed that the feed of the Dowagiac drill is similar to the feed illustrated and described in the Hoyt patent No. 492,802, of March 7, 1893.

By Mr. Banning: Defendants' counsel objects to the question as being immaterial and irrelevant to the issue presented on this accounting, and states that he considers it a matter of indifference whether the several patentees enumerated in the question claimed the various arrangements and combinations illustrated and described in their patents severally or not; and that their omission to claim them in no way militates against the right of the public to use and enjoy whatever they have shown and described.

Counsel further objects to the question on the ground that it is calculated to raise the question as to whether the force feeds inquired about would be an infringement of the several patents enumerated were they still in existence, while the only material inquiry is as to whether or not the several patents referred to show a practical force feed which the defendants might have employed.

A. The Marsh patent, under claim 3, covers a cellular distributing roller, a hopper, and a sliding steel gate, in connection with a slotted lever plate and a guide casting O. The McSherry patent claims a head or disk and a feed wheel having spiral threads. The Smith & Thomas has a claim for the seed cup and feed wheel, in connection with a sectional shaft united by couplings. So far as my knowledge goes, the several patents referred to in the question do not claim the specific construction of force feed found in the McSherry and Dowagiac drills and in the Hoyt patent referred to in the question. They show different constructions of force feed.

X-Q. 70. Then I understand your answer to be that the combination and arrangement of elements appearing in the complainant's drill as indicated, or in the McSherry drill as indicated, differs from the combination and arrangement of elements as pointed out in the claims of the previous patents to which you have referred; is that right?

A. The specific construction and arrangement of the force feed found in the Hoyt patent referred to in the second preceding question is not claimed in any of the patents referred to in the question; but those patents show that no broad construction can be given to any patent issued subsequent to the Marsh, McSherry and prior patents referred to, even if those patents do not claim broadly or specifically any force feed. Such patents would be a bar against any broad construction to a specific arrangement of elements entering into a force feed, in my opinion.

X-Q. 71. The elements, then, of a force feed, as far back as the date of the Marsh patent, then were old and it was simply a question of a new arrangement; is that right?

A. Hardly. The broad idea of a force feed is disclosed in the Marsh patent referred to. Subsequent patents would cover, if granted at all, specific formations and arrangements of the elements entering into the construction of the subsequent force feeds.

X-Q. 72. Then you are not prepared to say that the elements entering into the construction of the Marsh patent in 1861 were old at that time; is that right?

A. If old, they expired with the prior patent. If, however, the elements entered into the third claim of the Marsh patent were new with Marsh, that combination would expire with the expiration of the Marsh patent, and with such expiration of the Marsh patent the public would have a right, if they did not before that time have the right, to use a feed wheel or roller and a cup or trough as elements entering into a force feed.

X-Q. 73. What do you consider to be the requirements in the constructions of a satisfactory frame for a grain drill? I refer to the main frame.

A. The first grain drill that I ever saw, so far as I now recollect, had a wooden frame, strong and substantial, to support the other appliances, and this frame would fill the bill. My understanding is that at the present time wooden and iron frames are both used on the different constructions of grain drills, and both frames, so far as I know, if made substantial and strong, would answer the purpose, if they were of a construction to furnish the necessary support, strength and rigidity for the other appliances of the grain drill.

X-Q. 74. What is the requirements, so far as a tongue is concerned? Are there not grain drills that have no tongue at all?

A. There may be, but I have never seen one. If no tongue were used the frame would have to be of a construction for a hitch for the team either to the frame or to draft bars connected therewith or with the axles, as is the case in some types of cultivators which are tongueless. But even then I would say that the frame would have to be constructed to support the seed box and the other appliances with sufficient rigidity and strength for the purpose.

X-Q. 75. Do you think that a good frame, a good tongue, a good seed box, with a good, well-regulated force feed carried on well-constructed carrying wheels connected and adapted to drive the force feed, with delivery tubes in connection with the force feed to deliver suitable spouts or boots, would influence a farmer in the Northwest to purchase a grain drill, if that grain drill were provided with hoes rather than with shoes?

A. That I could not answer fairly without knowing the exact condition of the ground in which the grain drill was to be used. I do not see why, if the ground were proper, a hoe drill would not operate, provided it had the salable features mentioned in the question as to frame, tongue, carrying wheels, seed box, delivery spouts and force feed.

X-Q. 76. You have enumerated in paragraph 5 "A seed box for the grain or seed, a furrow opener—runner or other analogous implement—and a connection between the seed box and the furrow opener." What would you regard as an "other analogous implement"?

A. Any device capable of opening a furrow, such, for instance, as a proper hoe or disk furrow opener.

X-Q. 77. You refer to the structures of the Wheeler and the Brennan, Taylor & Lynam, as illustrative of this matter. I would ask you whether or not the Wheeler & Tuttle patent does not equally well illustrate the subject-matter of this so-called essential?

A. Yes, in a general way, as it has a seed box, runners connected together in pairs, with a receiving hopper of the top piece runner and a spout leading from the seed box but terminating short of the hopper, which, however, might, under certain conditions, deposit the grain or seed in the hopper of the shoe or runner. The adding of a flexible connecttion between the spout E and the hopper *g* of the shoe or runner would make a complete connection or continuous connection between the seed box and the shoe or runner, such as called for in requirement 5 of the question.

X-Q. 78. What, if anything, of this essential, as you have now defined it, is lacking in the Marsh patent of May 14, 1861?

A. The Marsh patent has a seed box and a connection leading therefrom, which connection enters into a tubular tooth for opening the furrow. This tooth might open the furrow all right, but, in my opinion, its mouth or open end would become clogged with earth, which would interfere with the dropping of the seed or grain, and therefore would lack this feature deemed by me essential to a successful and practical grain drill—that is, a runner or analogous

device for opening the furrow and dropping the seed. The furrow opener should be a practical one.

X-Q. 79. But there were practical furrow openers at that time, were there not—that is, the date of the Marsh patent?

A. Prior to the date of the Marsh patent undoubtedly there were practical furrow openers in the shape of hoes or plows, and possibly other kinds.

X-Q. 80. Considering the essentials which you have enumerated, 5, 6, 7, 8, 9, 10, 11 and 12, which I here quote in full:

> "5. A seed box for the grain or seed, a furrow opener—runner or other analogous implement—and a connection between the seed box and the furrow opener.
>
> "6. A runner for opening the furrow formed at its heel end to enable the grain to be deposited in the furrow, a connection between the heel end of the runner and the seed box, and a drag bar for the runner.
>
> "7. A runner for opening the furrow, having a sharp cutting bottom edge and V-shaped exterior sides with the apex of the V at the bottom and terminating in a heel end to furnish an opening for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, and a drag bar pivotally supported at its forward or draw end to allow the runner to rise and fall as required for uneven ground.
>
> "8. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a drag bar for the runner pivotally supported at its forward end to allow the runner to rise and fall as required for uneven ground, and a yieldable pressure acting on the runner and allowing the runner to ride over obstructions and to enter depressions.
>
> "9. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a drag bar for the runner pivotally supported at its forward end to allow the runner to rise and fall, and an adjustable yieldable pressure acting to regulate the depth of the furrow and allow the runner to ride over obstructions and enter depressions.
>
> "10. A plurality of runners each for opening a furrow and each having a heel end for depositing the grain or seed in the furrow, a drag bar for each runner, a yieldable pressure for each runner allowing the runner to rise and fall independently as required for uneven ground, and a lift common to all

the runners for raising and holding all of the runners clear of the ground.

"11. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, a drag bar pivotally supported at its forward end to allow the runner to rise and fall as required for uneven ground or passing over obstructions, a spring furnishing a yieldable pressure for the runner, a seed box and a continuous, flexible or telescopic connection between the seed box and the boot.

"12. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, a drag bar pivotally supported at its forward end to allow the runner to rise and fall, and a coverer following the heel end of the runner for closing the furrow over the deposited or dropped grain or seed."

I will ask you if you do not find, according to your testimony, that all of those essentials appear in the structure of the Brennan, Taylor & Lynam patent of July 17, 1877, and if this remark that I have made is not strictly in accordance with your direct testimony?

A. Yes, as to all of the requirements and combinations except 9, 11 and 12. As to 9 and 11, the requirement calls for a drag bar pivotally supported at its forward end to allow the runner to rise and fall as required for uneven ground, meaning a drag bar independently pivoted; while in the Brennan, Taylor & Lynam patent the several drag bars are attached to a cross bar which is pivoted so that the entire series of runners or shoes can be elevated and each runner or shoe has an independent rising and falling movement through the spring furnished by the drag bar between the runner and the common cross-bar. This independent yield would allow each runner or shoe to rise and fall as required for running over obstructions and on uneven ground. The twelfth requirement calls for a cover, which is found lacking in the Brennan, Taylor & Lynam patent, but could be added thereto readily by using the cover shown and described in the Wheeler & Tuttle patent No. 61,903, and this without changing the other features of construction found in the Brennan patent. Under the conditions herein stated, I would say

that in a general way all of the requirements are found in, or could be easily applied to the Brennan, Taylor & Lynam patent from the prior art.

X-Q. 81. Which of the twelve essentials to which you have referred are present in the structure of the Wheeler & Tuttle patent No. 61,903, of February 6, 1867; indicate specifically wherein that patent does not respond to any of these twelve requirements to which you have referred?

A. The Wheeler & Tuttle patent shows the shoes or runners and the drag bars arranged in pairs, with each pair of drag bars pivotally supported at the forward end. Removing the cross-bar between the pair of drag bars would give the Wheeler & Tuttle a construction in which each runner had its drag bar independently pivoted at the forward end, thereby meeting all of the requirements enumerated, with the possible exception of a yieldable pressure for the runner. The Wheeler & Tuttle patent does not show a yieldable pressure for the runner, and it would require the addition of a coil spring, a weight or other yieldable pressure if the weight of the runner or shoe was not sufficient for entering the ground and forming the furrow. The Wheeler & Tuttle also lacks the special construction of a V-shaped shoe or runner. With the exceptions noted, the Wheeler & Tuttle contains the requirements so far as concerns a seed box, a feed, a conduit from the seed box, a runner and a drag bar pivotally supported at its forward end, in connection with a supporting frame and carrying or transporting wheels, which are essential to a practical and successful grain drill.

X-Q. 82. Consider the patent to Patton and compare it with these twelve essentials which you have enumerated in your direct testimony—patent bearing date Sept. 8, 1868.

A. The Patton patent has all of the requirements for a practical and successful grain drill except a force feed, the Patton having a stirrer in the seed box which to a certain extent would assist in forcing the feed from the seed box into the dropping tubes, although in my opinion it would not be a successful force feed. The machine of the Patton patent also lacks a cover entering as an element into

the requirement or combination No. 12, which, however, could be readily supplied by a manufacturer by simply adding to the Patton machine the covering chains found in the Wheeler & Tuttle patent.

X-Q. 83. The Marsh force feed, I suppose, might be readily substituted for the feed of the Patton patent, could it not?

A. Certainly.

X-Q. 84. Which of these grain drills enumerated by you in your testimony has gone into successful commercial use, and indicate also which of them, so far as you know, have gone into successful commercial use in the Northwest, viz., Minnesota, North and South Dakota, Manitoba?

By Mr. Banning: Defendants' counsel objects to the question on the ground that it is immaterial and irrelevant to the issues presented in this accounting, as the important and material consideration, as he takes it, is as to whether the public had the right to make use of the constructions shown and described in the various patents under consideration, rather than whether or not the public availed itself of that right or privilege.

A. I could not say.

X-Q. 85. You did not make an investigation along that line, as I take it?

A. No, sir.

X-Q. 86. And your experience does not enable you to speak from observation; is that right, as to which of these went into commercial use to any extent?

A. If by experience is meant personal knowledge, I answer no.

X-Q. 87. Referring to the circular that was offered in evidence by Mr. Martin, and which has been sent out as describing the defendants' McSherry drill, kindly point out in these prior patents to which you have referred any claims which claim definitely the structure pointed out in such circular or in the McSherry drill itself.

By Mr. Banning: Defendants' counsel objects to the question on the ground that the same is immaterial, and irrelevant to the issues presented in this accounting, inasmuch as the material and important consideration is not as to whether the pat-

ents enumerated *claimed* arrangements or combinations shown and described, but whether they *showed and described* arrangements with sufficient clearness to enable those skilled in the art to understand and practice them, whether they claimed them or omitted so to do.

A. With the possible exception of the Wheeler & Tuttle patent, which has a claim for the covering chains, and which I found in the circular referred to, as a part of the McSherry drill, I do not think any of the prior patents cover by specific claims the other features and elements entering into the construction of the McSherry drill.

X-Q. 88. Covering devices were old at the date of the Wheeler & Tuttle patent, were they not, broadly considered?

A. Covering wheels are older than the Wheeler & Tuttle patent.

X-Q. 89. There are probably other covering devices, too, that are older, are there not?

A. Possibly. I think in my examination I ran across a roller, and also some sort of a drag, as covering devices. The Wheeler & Tuttle patent was the first one I found employing chains as covering devices.

X-Q. 90. Considering your answer to Q. 24, state whether or not, as an actual fact, you know of shoe grain drills having been sold in the Northwest, in which the features pointed out in the various patents referred to have been dispensed with.

A. The special type of seed drill made under the various patents to which my previous answer refers may not have had the special features of construction which are stated by me to be dispensable, dispensed with, but I certainly consider that these machines, whether used in the Northwest, or anywhere else, must have had in them the indispensable features which I have enumerated in my direct examination, and which may be briefly summarized as a supporting frame, carrying or transporting wheels, an axle, a tongue or some equivalent hitch, a seed box, a force feed, a shoe or some other furrow opener, a conductor leading from the seed box to the shoe or furrow opener, drag bars for the shoes or furrow openers, and some

means, such as a yieldable pressure, for allowing the runner or shoe to rise and fall independently and for all of the runners or shoes to be simultaneously elevated.

X-Q. 91. You do not answer my question definitely. Please indicate whether or not you know of any grain drill having been sold without some of the features that are claimed in the various patents referred to appearing.

A. Presumably the manufacturers of the various grain drills employ in the construction the special features of construction claimed in the several patents, but of my own personal knowledge I do not know whether this is so or not. The natural supposition would be that the manufacturer of a grain drill, if he had a patent or patents for certain elements or features, would embody such elements or features in the grain drill.

X-Q. 92. But getting away from the matter of speculation, please state what you know about it.

A. I have already stated that of my own personal knowledge I do not know whether the elements of these several patents were used or not.

X-Q. 93. Considering the construction of the grain drill, I suppose that it is quite necessary, if the frame be constructed of wood, that it be of good, sound material, of sufficient size to withstand the strain, or that if it be of metal, that it be good, sound metal, of sufficient size and weight to withstand the strain. This is essential, is it not, in the manufacture of a grain drill?

A. Yes, unless the manufacturer wanted to supply extras, in which case he would probably make a weak frame, or some of the appliances to break, so as to have extras supplied.

X-Q. 94. It would not be a very successful grain drill that was calling for extras all the while, would it?

A. That would depend a good deal upon the push and vim of the selling agents, and their ability to talk some good quality or point in the grain drill, leaving out the weak points.

X-Q. 95. What experience have you had in the sale of grain drills that enables you to make this statement?

A. None whatever; but in attending at fairs I have heard the selling agents talk different machines—cultivators, corn planters, disk drills, grain drills, and other appliances—with a good deal of vigor, and they were careful to point out the essential features which the manufacturers considered as pertinent to their machine, leaving out of consideration other features found in other machines which were equally as pertinent.

X-Q. 96. Please indicate the last agricultural fair which you attended, where you noted the conduct of salesmen, to which you have referred.

A. I think it was two years ago, in the County Fair held at Kankakee, Illinois, in September.

X-Q. 97. What particular machinery did you not under discussion by salesmen at that time, in which this conduct of salesmen appeared?

A. I think there was a dump rake having some peculiar construction of the fingers, and a number of other different machines, the nature of which I do not now recall, in which the salesmen were extoling the special merits of some feature or features of construction.

X-Q. 98. What was the weak feature of the dump rake which you noticed that they were glossing over?

A. I do not know as there was any weak feature, as I paid no particular attention thereto, but I noticed that it had certain indispensable features, such as carrying wheels, an axle, a hitch, a clearing bar, and means for raising and lowering the bar carrying the rake teeth, and I do not recall that the salesmen made any particular reference to these indispensable features of construction found in almost all, if not all, dump rakes.

X-Q. 99. What you call these indispensable features, then, did not enter into the particular salability of that rake, did they?

A. No; and I think that is true of a number of unimportant features which are talking points and found on different implements and machines of the present day construction. The indispensable features are not referred to, as their merit and value is well known to farmers and others and there would be no necessity of a salesman

especially referring to these indispensable features, and particularly so if he had some little minor feature of construction which would aid in making a sale.

X-Q. 100. On what occasion did you attend a fair next prior to this one at Kankakee, where the selling agents of agricultural machinery were demeaning themselves as you have indicated?

A. That I could not answer. Possibly Kankakee at the preceding year. I do remember of attending the State Fairs when held here in Chicago several years ago, and hearing these various salesmen extol the merits, as to minor points, of their various machines; and at the World's Fair, while I do not recall any agricultural machinery specifically, I do recall entering the electrical building, and other buildings, and hearing the salesmen, or those in charge, extol the merits of their machines or appliances. So far as my knowledge goes, this is a common practice with salesmen of agricultural machinery and other products and appliances.

X-Q. 101. You never knew of this occurring, though, in the matter of the sale of grain drills, did you?

A. That I would not be willing to answer either yes or no, as I might have heard such talk during some of the State Fairs held in Chicago without paying any particular attention thereto.

X-Q. 102. In your investigation of the grain drill art did you discover any shoe grain drill construction in which the shoes were rigidly bolted to the seed box, without any intervening draw-bars, such structure not being provided with carrying wheels?

A. I think there are patents of that description, but I paid no particular attention to such patents, they not having therein the indispensable features, as regarded by me, of a practical and successful grain drill supported on carrying or transporting wheels.

X-Q. 103. Would not these grain drills to which I have referred be very effective and successful grain drills on level, well cultivated fields?

A. With the right condition of earth and a proper construction, I do not see why they would not work fairly well.

Re-Direct Examination by Mr. Banning.

R-D. Q. 104. I believe I omitted to ask you to state whether or not the Marsh, McSherry, Wheeler & Tuttle, Patton, Wheeler, Brennan, Taylor & Lynam, and Smith & Thomas patents, enumerated in your answer to Q. 11, contain specifications and drawings sufficiently clear and explicit to enable any one skilled in the art, or analogous arts, to understand, construct and practise the inventions shown and described in such patents. Please give us your opinion on that point.

A. The several patents referred to in the question all have specifications and drawings from which any one skilled in the art would be enabled to construct and use the machine or appliance of each of said patents.

R-D. Q. 105. In this catalogue of the Peoria grain drill, on page 9 appears to be shown a portion or section of the force feed with which the machine sold by the defendants was equipped. Please look at this and tell us whether you understand its construction and operation.

A. I have looked at the cut on the page referred to in the question and understand the construction and operation of the force feed shown by the cut.

R-D. Q. 106. Look at this patent No. 642,534, issued January 30, 1900, to Charles P. Sester, and tell us whether or not you find that such patent shows, describes and covers the force feed device used on the Peoria drill, as shown in this catalogue to which I have called your attention.

A. I have examined the patent referred to in the question and find that it shows, describes and claims the construction of force feed of the cut in the circular.

Re-Cross Examination by Mr. Chappell.

R-X Q. 107. The combinations recited in the claims of this patent 642,534, of January 30, 1900, to C. P. Sester, all relate to force feed mechanism, do they not?

A. They do.

R-X Q. 108. Kindly refer to these claims and state whether or not you find a coiled spring denominated as an element in each of the combinations recited.

A. All of the claims except the fourth specify a coiled spring, the fourth claim merely specifying a pressure spring.

R-X Q. 109. I call your attention to the Hoyt patent No. 492,802, of March 7, 1893, for seeding drill, and ask you if you understand the purposes of the coiled spring appearing therein?

A. The coiled spring is for the purpose of maintaining each set of feed devices in proper position.

R-X Q. 110. Indicate which of the claims of this Hoyt patent contain the spring as an element of the combinations.

A. The coiled spring is specifically mentioned in claim 3.

R-X Q. 111. Kindly refer to the catalogue of the Selby-Starr, also the Sester patent, and indicate what the utility of the spring is in the structures there illustrated and described.

A. The spring is for the purpose of holding the parts in position for the cylinder to be adjacent to and abut against the seed wheel at all times.

R-X Q. 112. Is there any diffrence in the general function of the spring here appearing and that of the spring appearing in the Hoyt patent to which I have just referred?

A. Not in the broad idea, I would say; both springs are for the purpose of holding the cup and seed wheel in close relation.

By Mr. Banning: The letters patent No. 642,534 and the catalogue of Selby-Starr & Co., showing the shoe drill sold by the defendants, are offered in evidence for use in the case against Smith & Zimmer, and the catalogue is identified by the signature of complainant's counsel written thereon.

F. G. ALLEN, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Frank G. Allen; 47 years; Moline, Illinois; vice-president of the Moline Plow Company, and also of the Minnesota Moline Plow Company.

Q. 2. How long have you been connected in one way or another with the Moline Plow Company?

A. I have been connected with the Moline Plow Company at two different times, from July, 1881, to the present time. An intermission in my service with the Moline Plow Company took place between '86 and '92.

Q. 3. I show you some contracts purporting to be contracts between the McSherry Manufacturing Company and the Minnesota Moline Plow Company which have been identified and offered in evidence in the deposition of Mr. Martin in this case. Please look at these contracts and state what they are, if you know.

A. They are what you have stated them to be—contracts between the McSherry Manufacturing Company and the Minnesota Moline Plow Company.

Q. 4. Are they the contracts under which the Minnesota Moline Plow Company procured the McSherry shoe drills which it sold beginning with the year 1896 and ending with the year 1902?

A. They are.

Q. 5. I notice your name, or the name of F. G. Allen, on the first one of these contracts, and also on some of the others, signing for the Minnesota Moline Plow Company as secretary. Is that your signature?

A. It is.

Q. 6. I notice that the McSherry Manufacturing Company's name is signed by T. O. Eichelberger; do you recognize that as his signature?

A. Yes, sir.

Q. 7. At the time you signed this first contract for the Minnesota Moline Plow Company, under which it began to handle Mc-

Sherry shoe drills, were you familiar with or acquainted with the particular kind of spring pressure device that was to be used on the McSherry shoe drills for holding the shoes to the ground?

A. I was not.

Q. 8. You may state what the fact may be as to whether you made any inquiry as to that point or sought to acquaint yourself with the particular kind of spring pressure device that was to be used.

A. I knew nothing about the spring pressure device—knew practically nothing about drills and seeders, and did not ask anything about the spring pressure device.

Q. 9. You may state whether or not, so far as you know, the spring pressure device that was to be used on this McSherry shoe drill influenced or induced the making of the contract for the handling of the McSherry shoe drill.

A. The particular spring pressure device had nothing to do, in my mind, with the making of the contract.

Cross-Examination by Mr. Chappell.

X-Q. 10. What are your duties in connection with the Minnesota Moline Plow Company at the present time, and what were they at the making of this contract in December, 1895, and subsequently up to the present time?

A. At the time of the making of this contract and subsequently thereto I have been one of the co-managers of the Moline Plow Company and the Minnesota Moline Plow Company, and have had general supervision of the business end of the two concerns as distinguished from the manufacturing end.

X-Q. 11. How extensive an institution is maintained by the Moline Plow Company and the Minnesota Moline Plow Company? Indicate in a general way the volume of business conducted by these two concerns, the character of it, the number of men employed in different ways, and the territory covered.

A. The Moline Plow Company is a large manufacturing institution; manufacturing plows, cultivators, corn planters, and tools of that sort. They also are in a certain sense jobbers as well, pur-

chasing from others both for their own use and for the use of their branch houses, of which the Minnesota Moline Plow Company is one, various lines of goods manufactured by others. They have employment for perhaps 1,000 or 1,200 mechanics, laborers and office men at Moline; and at Minneapolis, the headquarters of the Minnesota Moline Plow Company, they have an office force of perhaps a dozen men and a traveling force of from five to ten men, according as the business has grown.

X-Q. 12. The Moline Plow Company is what might be denominated a parent company, is it not?

A. It is.

Q. 13. Name the other companies that have existed as branch companies during this period from 1896 up to say the present.

A. The Canadian Moline Plow Company at Winnipeg, the Nebraska Moline Plow Company at Omaha, the Colorado Moline Plow Company at Denver, the Western Moline Plow Company at Salt Lake, California Moline Plow Company in California, Kansas Moline Plow Company at Kansas City, Texas Moline Plow Company in Texas, the Southern Moline Plow Company at New Orleans, the Missouri Moline Plow Company at St. Louis, the Eastern Moline Plow Company at Indianapolis, and recently, within the last six months, the Oklahoma Moline Plow Company at Oklahoma City and the Dakota Moline Plow Company at Sioux Falls.

X-Q. 14. When was the Canadian Moline Plow Company organized?

A. I don't just remember the date. It was not far from '99 or 1900.

X-Q. 15. Was it not subsequent to 1902?

A. I think so; I would not be sure without the dates before me.

X-Q. 16. Now as to the volume of business done by the Moline Plow Company and the Minnesota Moline Plow Company especially, and the entire volume of business done by the Moline Plow Company and its allied institutions where you have to take part in the active management, what is the volume of the business as to the various items indicated in round figures?

A. Oh, I should say that the Minnesota Moline Plow Com-

pany's business was about one-ninth of the whole business of the Moline Plow Company at the present time, and that fraction was somewhat less than it was at the time of making these contracts. At that time I should guess in an off-hand way that it was perhaps one-sixth or one-seventh of the total business of the Moline Plow Company.

X-Q. 17. What I am desirous of getting at, in a general way, is the magnitude of the business interest which you represent as manager; about how much business is done in the course of a year by the Moline Plow Company and its allied institutions, and about how does that compare with the annual business since '96?

A. The Moline Plow Company and its allied branches do about six million dollars' worth in business at the present time, and the business of the Minnesota Moline Plow Company is about one-tenth of that total business. The proportion of business in '96 that the Minnesota Moline Plow Company did of the whole amount of business done by the Moline Plow Company and its branches was a little more than it is at the present time, owing to the fact that business is developed in other territories a little more largely than it has been in the Northern territories.

X-Q. 18. Then your answer to the volume of business per annum of six to seven million applies to the entire period from '96, does it?

A. No, no.

X-Q. 19. That was what I was trying to get at.

A. No, that applies to the present year. The business has grown since '96—1896—steadily, and the ratio of the business of the Minnesota Moline Plow Company to the total of the Moline Plow Company and its branches has been somewhat less since 1896 than it is today.

By Mr. Banning: I supose you want to show that Mr. Allen cannot give attention to details, with the large business?

By Mr. Chappell: That is what I had in mind, and the volume of business done and which he is supervising since '96.

X-Q. 20. So, if you will kindly indicate about what business was done in '96, indicating in a general way the increase in the busi-

ness from that time to the present, it will cover the ground of my question.

A. I think the business which was done by the Moline Plow Company and its branches in '96 was somewhere in the neighborhood of $2,000,000, and of that $2,000,000 perhaps $200,000 to $250,000 was done by the Minnesota Moline Plow Company, and that ratio has continued practically the same from that time to this, increasing all the time in volume in both instances, but the proportion of the business done in '96 by the Minnesota Moline Plow Company was a little larger than the proportion now done.

X-Q. 21. And the business has increased from about $2,000,000 in '96 gradually from year to year up to the present, when it is between $6,000,000 and $7,000,000; is that right?

A. That is right.

X-Q. 22. In a business of the volume indicated, I suppose you are obliged to intrust many details to subordinates, are you not?

A. I am.

X-Q. 23. I suppose the matter of a purchase of grain drills, like the McSherry drill, would be intrusted to subordinates who would qualify themselves to pass on those questions, would it not?

A. That is true at the present time, although in '96—'95 and '96—I gave more attention to it than I do now, the business being much less and our assistants less numerous.

X-Q. 24. But even at that time you relied upon the judgment of the people in the territory to which the goods related rather than your own, did you not?

A. We always referred the matter to them before closing a contract, but sometimes we had inefficient help at branches and had to put in new men from time to time, and sometimes we knew more about the territory than they did.

X-Q. 25. What familiarity did you have with the requirements for grain drills in the Minneapolis territory covered by the Minnesota Moline Plow Company in '96?

A. Not very much.

X-Q. 26. You had never been in that territory and actively employed there in the sale of goods, then; is that right?

A. I don't know exactly what you mean by that. I had had a supervision of the sales of goods in that territory at that time, and the managers were employed by me and a close supervision was kept at that time—closer than is at the present time, on account of the increased business we are doing.

X-Q. 27. Your principal function, however, was to be sure that you had selected the right man for that territory, wasn't it, rather than that you should give attention to details that would come before him?

A. No, our system of doing business was one that made it possible for us to follow the details of the business very closely, as copies of all contracts which where taken had to be submitted to the home company and anything irregular passed on, and a pretty close supervision was kept.

X-Q. 28. Well, those contracts didn't go into the matter of the details of the business; they were general contracts for purchase and the specifications were prepared by the local manager rather than by the home office, were they not?

A. That is generally true.

X-Q. 29. Well, that was true in this case, was it not?

A. I think so.

X-Q. 30. The home office accepted the recommendation of the local officers of the Minnesota Moline Plow Company?

A. I am not sure, because I don't remember just now who was manager at that time. We changed managers in that territory, and were compelled to take such assistants as we could get, and sometimes we got men that understood one branch of the business—one line of goods sold in that territory, and if he was unsuccessful another manager was obtained and he might be more familiar with another line; so that we tried to supplement any knowledge of goods that he was lacking in with information that we had in Moline concerning the needs of the territory.

X-Q. 31. What consideration did you give to the construction and details of construction in grain drills before you signed these contracts with the McSherry Manufacturing Company?

A. Very little.

X-Q. 32. Did you examine any other drills that were in the market, for the purpose of comparison with these before you closed this contract?

A. I don't remember of having examined any other drills, and, in fact, I don't believe I examined the sample of these drills.

X-Q. 33. That matter of the details, as to what kind of a drill should be handled, was considered by Mr. Martin, the local manager at Minneapolis, and more particularly by Mr. Stevens, at Moline, was it not?

A. I think Mr. Martin was consulted with reference to it, but how much influence his advice had in the matter I cannot tell, because he went there an inexperienced man in that territory from a traveling position in Illinois, and if it was early in his service there we gave his advice very little consideration; if he had been there some little time we would give it more consideration.

X-Q. 34. Mr. Stevens had to do with the consideration of the details of machines oftentimes, did he not?

A. I don't remember of his giving any attention to the purchase of mercandise as far as the details of machinery was concerned, although he may have done it and I not know it.

X-Q. 35. Have you any expert on the construction of agricultural machinery that you employ at Moline to review the sample structures to be sure that they are all right before you purchase them?

A. There is no mechanical man in Moline that we refer these matters to before purchasing outside goods.

X-Q. 36. What are the relations of the Moline Plow Company to the Minnesota Moline Plow Company, and what were their relations in 1896?

A. They are independent corporate institutions existing under the laws of the State of Illinois. The Moline Plow Company, through its officers or trustees, own the stock in the Minnesota Moline Plow Company.

X-Q. 37. Do you remember any matter or thing that you considered prior to signing this first contract that influenced you into signing the same?

A. The only thing that is now in my mind on that subject is that we thought the McSherry people were making a good line of drills and we thought—*I* thought—that the prices that they offered

the machines to us at were prices at which we could sell drills in that territory. Drills were a side line with us, and we were desirous of having a tool that would fill the line.

X-Q. 38. From what sources did you get the information that the McSherry goods were good goods?

A. I don't know, except that they had—the name was a familiar one in the trade. It is so long ago that I don't remember what the—

X-Q. 39. The trade in the Northwest wasn't familiar with that name, was it?

A. I don't remember that it was. My memory on the subject is very hazy.

X-Q. 40. What information did you have as to the requirements in the Northwest for grain drills that influenced you particularly to sign the contract for that grain drill at Minneapolis?

A. I don't now remember any special sources of information, except that we needed a drill and the boys had to have something for that territory, and Mr. Eichelberg wanted to sell his drill, and—

X-Q. 41. What grain drill did you purchase for your other branch institutions? Were those all McSherry's?

A. I don't now remember. Our trade in drills was very, very small at that time, and we used very few drills in our other branch houses, and none in some of them.

X-Q. 42. What fact, if anything, influenced you to take up grain drills in the Northwest, and not at your other branch establishments?

A. The demand up there for drills was strong, and the line of goods that we were able to sell in that territory was short of the line of goods that we could sell in other territories, being no corn tools at that time to speak of. We added to the line in Minneapolis all the outside goods that we thought were salable, and that we could buy at the right price to afford us a profit, hoping to pay the expenses up there.

X-Q. 43. You have no mechanical department, or had no mechanical department, whose functions were that of regular buyers to carefully inspect goods before purchasing them?

A. We did not.

The signature of the witness in the presence of the notary is waived.

CLARENCE PATTISON, a witness produced, sworn and examined on the part of the defendants, in answer to questions by Mr. Banning, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. Clarence A. Pattison; age, 36 years; residence, Peoria, Illinois; occupation, secretary and manager Peoria Drill & Seeder Company.

Q. 2. How long have you been connected with any company or firm manufacturing or dealing in agricultural implements?

A. Since the fall of 1889.

Q. 3. With what company were you connected then?

A. Dowagiac Manufacturing Company, Dowagiac, Michigan.

Q. 4. Have you ever had any experience in the sale of shoe drills?

A. I have.

Q. 5. In what part of the country?

A. In nearly all of the States in the middle West.

Q. 6. You may state what the fact may be as to whether you have had any experience in the Northwest, including the States of Minnesota, South Dakota and North Dakota.

A. I had experience more or less since the year 1891 in North Dakota, Minnesota and South Dakota.

Q. 7. What was your experience in the Northwest territory; was it salesman, traveler, or what was it?

A. My duties were general duties. I acted as clerk or assistant to Mr. Fowle in the capacity of office work, road work, and any other work that might come under the business of selling and settling for the drills.

Q. 8. What kind of drills did you have experience in the sale of?

A. In the Northwest it was shoe drills.

Q. 9. Of whose manufacture?

A. Dowagiac Manufacturing Company.

Q. 10. During what years?

A. The years '91 and '92, principally.

Q. 11. Have you had any experience in the sale of other kinds of drills since then?

A. I have.

Q. 12. What kinds?

A. Hayworth drills, manufactured by the Hayworth & Sons Manufacturing Company, at Decatur, Illinois, and Peoria drills as manufactured by Selby, Starr & Co., and Peoria drills as manufactured by the Peoria Drill & Seeder Company.

Q. 13. What kind of drills did you come into competition with in the Northwest?

A. Principally shoe, press and a few hoe drills.

Q. 14. Of whose manufacture?

A. The VanBrunt & Wilkins, the Monitor, the Havana, the Tiger, the Farmer's Friend, the Superior, Hoosier, Richmond Champion, and Buckeye.

Q. 15. During what years did you encounter these various makes of shoe drills?

A. In '91 and '92.

Q. 16. What kind of spring pressure device for the shoes did the Dowagiac shoe drill have during 1891 and 1892?

A. They had a parallel rod pressure.

Q. 17. What kind of spring pressure devices did these various drills that you have just mentioned have for pressing the shoes to the ground?

A. Most of them used a compression coil spring.

Q. 18. How did that work?

A. I don't understand how you mean.

Q. 19. Were they able to sell their drill with a coil spring for the pressure device?

A. Yes, sir.

Q. 20. You may state whether it gave satisfaction, as far as you know.

A. As far as the pressure was concerned, I think they gave very good satisfaction—at least they had considerable sale in drills.

Q. 21. Did you yourself personally assit in the sale of Dowagiac drills?

A. Yes, sir.

Q. 22. To the farmers?

A. Yes, sir.

Q. 23. And to dealers?

A. Yes, sir.

Q. 24. I will ask you to state what features of construction or of operation you laid particular stress upon, if any, in endeavoring to make sales of Dowagiac shoe drills to farmers or dealers.

A. One of the principal talking points used was the shoe—the shape of the shoe or furrow opener, the manner in which it was attached to the machine, the position it had as regards the manner in which it stood on the ground in drawing the soil, and the fact that it being arranged with a perpendicular discharge so that the grain was deposited at the bottom of the furrow and that the grain did not hit against a projection in the heel, which would cause the grain to shoot out or away from the furrow. Also we had a force feed which was better made than other feeds; we had a high wheel, and the general appearance of the machine was lighter and it was well made. I will also add that the shoe was so arranged that only a small portion of it drew in the ground, and that the trash which come in contact with the shoe would strike so near the point that what it didn't cut it would pass over.

Q. 25. You may state what the fact may be as to whether these various features of construction and operation that you have just enumerated all contributed more or less to the sale of the Dowagiac shoe drills.

A. They did.

Q. 26. I will ask you to tell us in your own way what you regard as the essential or most important features in the construction of a shoe drill to make it practical and successful in the Northwest territory.

A. I consider, first of all, that it must have a properly constructed furrow opener, as without the furrow opener the balance

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of the drill would be a failure. The shoe must be closed at the heel and V-shaped; it must have a pivotal connection with the frame and stand sufficient on the heel to clean itself from trash. It must also have a force feed which will handle the different varieties of grain in desired quantities; a strong frame and a high wheel.

Q. 27. During the time you were selling, or assisting in selling, Dowagiac shoe drills, did you have any circulars or catalogues issued or put out by the Dowagiac Manufacturing Company to illustrate and describe the construction of their shoe drills, among other things?

A. I did.

Q. 28. Look at these two catalogues that I now show you and state what they are, if you know.

A. These are catalogues of the Dowagiac Manufacturing Company, representing their grain drills.

Q. 29. Put out about when?

A. Well, I couldn't state definitely as to that, there are so many catalogues issued, but these were issued along, I should think, about—well, I can't state definitely as to that, there are so many different catalogues I can't state definitely.

Q. 30. I will ask you to compare them with the catalogues already in evidence and identified by Mr. Fowle as having been put out by the Dowagiac Manufacturing Company in the years 1895 and 1898, and see whether or not they correspond with the 1895 and 1898 catalogues already in evidence.

A. I think this is the catalogue that was issued in 1895 (referring to one like the one shown him marked as 1895, in evidence). I think this is the one put out in 1898, as near as I can remember (referring to the one like the one already in evidence and identified as 1898 catalogue).

Q. 31. Please look at this 1895-1898 catalogue put out by the Dowagiac Manufacturing Company and see whether or not you find importance and emphasis given to any features of construction or operation in shoe drills other than the spring pressure device.

A. Well, in this catalogue of 1898, on the first page, it speaks

of the vital part of a shoe drill being its runner. On the second page it refers to the force feed, and its being extra well fitted and having a spring to take up the wear between the fluted roller and the cut-off.

Q. 32. Do you not find a similar reference in 1895 catalogue to the shoe or runner?

A. I do, on page 13.

Q. 33. I call your attention to page 2 of the 1895 catalogue, and page 1 of the 1898 catalogue, and ask you if you do not find this language in these two catalogues, viz:

> "The vital part of a shoe drill is the runner. It has proved to be the weak part in nearly all of the condemned ones. It is a strong point of the Dowagiac; well made, nicely fitted, perfectly adjusted and attached in a practical way."

A. I do.

Q. 34. I call your attention to page 13 of the 1895 Dowagiac catalogue, and ask you to look at that page and state what you find enumerated as the requirements of a grain drill, particularly with reference to the shoe. You may read any particular clause that you find there descriptive of the shoe or runner.

A. On the page you call my attention to, page 13 of the 1895 catalogue, I find the following:

> "The distinguishing feature of shoe drills is the runner, which forms the furrow into which the grain falls and is covered by either a ring chain or with a pressure wheel. Forced to the required depth, by steel springs, the shoe draws steadily through the ground, forming furrows of uniform depth; pressing trash into the ground and passing over it; packing the bottom of the furrow, to form a perfect seed bed, and followed by the chain or wheel, *perfectly planting the seed*, and insuring for the user the best results possible.
>
> "With this description of shoes in general, we refer to the Dowagiac shoe and its appliances in particular. Made of best steel plates and tempered, of sufficient length and pitch to ride trash readily, they are attached to the frame with steel draw bars in a manner to prevent side motion; thus keeping them always equidistant. Two spring rods force the shoe into the ground with greater or less pressure, applied according to the

hard or soft condition of the ground. These springs are long and permit the shoes to rise and fall in conforming to uneven surfaces."

Q. 35. Without stopping to quote other passages in these Dowagiac catalogues of 1895 and 1898, I will ask you to state briefly and generally whether or not they do not call attention to various details of construction, such as the frame, the wheel, the feed, etc., and emphasize the same as important, as well as to the spring pressure devices.

A. They do.

Q. 36. From your experience in the sale of shoe drills in the Northwest territory, and from your knowledge of the conditions that obtain there under which shoe drills are used, you may state whether or not you consider yourself qualified to speak as an expert on the kind and quality of shoe drills required for that territory.

A. I do.

Q. 37. If, in your opinion, there is any difference in quality and desirability between the different kinds of shoe drills that you have known as sold and used in the Northwest territory, please state what that difference is, and why you prefer one to another, if you do.

A. There were several different makes of shoe drills sold in the Northwest territory. Among the more prominent ones at the time I was in that territory were those which were made with an open heel and a closed heel, shoe or runner. The closed heel was preferable on account of it not clogging, the fact that the discharge of the grain was better arranged. To explain, the closed heel shoes were first so constructed that the grain would strike on a ridge near the bottom and spring out behind sometimes, not falling in the furrow; the later shoes having the end of the heel cut off and the discharge arranged more on a perpendicular line with the feed, allowed the grain to drop to the bottom of the furrow. This style of a machine with a small shoe, with a pivotal connection with the frame, which drew only on the heel, gave less trouble in trash, was lighter draft, and would clean itself better in clods, which give a great deal of

trouble in that territory. There was also sold in that territory drills with feeds known as the double run feed, which were not popular, owing to the fact that at that time they would not handle flax, which was generally sown in that territory, without leaking the seed. There were also sold in the territory, which had for their covers only a press wheel. The principal drill at that time with the press wheels was the Havana. It not only covered with a press wheel, but had an open heel, or split heel shoe, as it was called, that gave a great deal of trouble by the mud accumulating between the shoe. There were also sold at that time a drill made by P. T. Mast, the Buckeye, which the principal objections to were that it had a low wheel and was called a low down drill, and in sowing in fields where there are low places or sloughs this drill would often get mired, so that the higher wheeled drill—and the higher the wheel the better —was preferable in those places, and the drill which did not have for its cover a wheel, but had a chain was better; and what was still better in a good many places was a shoe that would deposit the grain so that neither the wheels nor the chain was necessary, and a number of farmers sowed their grain with neither the wheels nor the chain, preferring to leave the land rough rather than having it smoothed off, as it would be by the chains.

Q. 38. I will ask you to give us your opinion as to the relative utility and desirability of the coil spring pressure device, like that on some of the drills that you have mentioned, and the rod spring pressure device like that on the Dowagiac shoe drills, giving us your reasons for any opinions that you may express.

A. I consider for pressure, which must be both sensitive and powerful, that a coil spring is better. Mechanically the life of a coil spring is longer than that of a parallel spring. It is not possible, as has been demonstrated, to temper a parallel rod spring so that it will be uniform, while, on the contrary, it is possible to do this with a coil spring. A coil spring pressure can be more economically constructed. It also will allow of a greater range of action without getting beyond the danger point of a spring. It also can be arranged in a simpler construction, and will not only be more sensitive,

but more powerful and arranged so that the pressure will come back onto the heel of the shoe, and not forward, so as to make neck weight on the machine. It can also be arranged so that attaching covering devices, such as wheels, would not interfere so much with the neck weight of the machine.

By Mr. Chappell: The answer is objected to as incompetent at this time. These matters have already been reviewed and threshed out in the trial of the case before the interlocutory decree, and are not proper to be gone into at this time. This is the reason of the objection.

Q. 39. Am I to understand that, all things considered, you regard a coil spring pressure device for the shoes to be preferable and more useful than the rod spring pressure device like that used by the Dowagiac drills?

A. Yes, I do, and they are more generally used.

By Mr. Starr: As this deposition is expected to be used in the trial of a case of the Dowagiac Manufacturing Company against Smith & Zimmer, I desire to propound to the witness a few questions in relation to the manufacture of the Peoria drill.

It is stipulated by counsel that this deposition may be so used.

By Mr. Starr: Q. 40. Mr. Pattison, how much have you been in the territory in the Northwest since the year 1896?

A. I have made several trips each year; I would think not less than four to five trips per year.

Q. 41. You may state whether or not you have had practical experience in the workings of the various grain drills in that territory during that time.

A. Yes, I have had practical experience in the field nearly every year.

Q. 42. Is it from that experience that you have had in the field with reference to the workings of drills from which you have been able to formulate your opinion as to the relative merits of a coil

spring and a long flexible spring, such as used by the Dowagiac Manufacturing Company?

A. Yes, sir. I have been thoroughly convinced from practical demonstrations made that the coil spring is preferable to the parallel spring.

Q. 43. You may state how long you have been acquainted and known of the manufacture of the Peoria drill as it was manufactured for Smith & Zimmer by Selby, Starr & Co.

A. The first Peoria drill I remember of having seen in the Northwest, I believe, was in 1897, at the Minneapolis State Fair.

Q. 44. You may state in your own way, Mr. Pattison, what features of the Peoria drill, if any, that in your judgment as a salesman and a dealer in drills, commend it to the trade. Please enumerate them in their various orders, as near as you can remember.

A. In looking over the drill, in company with other drill representatives, and after looking over all the different makes of drills on the ground at that time, we concluded, in so far as this machine was concerned, that it was the best finished, the most complete grain drill exhibited on the grounds. It had some new features, principally which were the wheels, that had very long bearings; the spring, which kept the fluted roller tight against the cut-off, was within the case, and it had a chain equalizer hitch which had not been introduced before, at least, I had never saw it used on a grain drill before; it had a V-shaped shoe which traveled on the heel, a very strong frame, levers convenient, and a spring pressure.

Q. 45. Were all of these various features that you have mentioned of such a character as to commend it to the trade, in your judgment?

A. It was—it did have—yes, it did.

Q. 46. From your experience in the trade, Mr. Pattison, I would ask you what, in your judgment, is the most important feature for the successful shoe drill?

A. I consider that the shoe or furrow opener is the most important feature of a shoe drill. Without a properly constructed shoe the balance of the drill would be a failure.

Q. 47. Isn't it a fact, Mr. Pattison, that without a properly constructed shoe, without it hanging properly upon the drill, that it would be wholly ineffective, mattering not what character of spring was used, whether it was a coiled spring or a long, flexible spring?

A. That is true.

Q. 48. Mr. Pattison, from 1896 up to 1902, how many different makes of drills were competing for the trade in the Northwestern territory; please enumerate them as closely as you can?

A. The Dowagiac, the VanBrunt, the Monitor, the Superior, Hoosier, Havana, Buckeye, Ohio, Indiana, Kentucky, McSherry, Fuller-Lee, Empire, Cassopolis, Tiger, Fountain City, Richmond-Champion, Peoria, Hayworth.

Q. 49. Of the drills that you have enumerated, please state, in your judgment, and from your knowledge of the territory, what drills were the leading competitors in that territory during that time.

A. The leading drills in the Northwest during that time, according to my judgment—the leading machines during that time were the Dowagiac, the VanBrunt, the Monitor, Superior, Hoosier, McSherry, Peoria, Buckeye, Kentucky.

Q. 50. Were they all active competitors for the trade during that time?

A. Yes.

Q. 51. Are you familiar with the manner of the trade as conducted at the present by the Dowagiac Manufacturing Company?

A. Yes, I am.

Q. 52. You may state, if you know, what efforts the Dowagiac Manufacturing Company made during these years, or at all times, to push their trade in that territory especially.

A. The Dowagiac Manufacturing Company were very aggressive at all times during the period that I was with them in the Northwest. The trade was well handled; the prices made were competitive; they sold on liberal terms and liberal forms of contract, including sale contracts, collateral sale contracts, in which farmers' paper was taken, and also commission contracts. They went into the trade early, before other manufacturers; they shipped their goods

in early and had them ready for the trade, and gave, I think, better and prompter service in the manner of shipments and deliveries of goods than any other concern selling drills in the Northwest. They employed sufficient travelers, and also canvasers, who went into the trade early, and generally had the most of their contracts and the greater portion of their sales made before the competitor got into the trade.

By Mr. Chappell: The testimony relative to contracts is objected to as incompetent and secondary, and the testimony generally is objected to as probably hearsay.

Q. 53. You may state whether or not, in your answer to the previous question, you had absolute knowledge of the facts which you have stated, by virtue of your position as salesman and working for the Dowagiac Manufacturing Company.

A. I did; I had absolute knowledge.

Q. 54. Now, Mr. Pattison, you have enumerated a number of drills; were they all active competitors of the Dowagiac Manufacturing Company?

A. Yes, sir.

Q. 55. During all that time?

A. Yes, sir, they were.

Q. 56. And were they all working to secure their portion of the trade?

A. Yes, sir.

Q. 57. Can you give, or will you give, in your judgment, what were the leading competitors that sold the most drills in that territory during this time?

A. The Dowagiac, the VanBrunt, the Monitor, the Superior, the Hoosier, Peoria and Havana.

Q. 58. From your knowledge of the trade, state whether or not, in your judgment, it would have been possible for the Dowagiac Manufacturing Company to have sold all the shoe drills that were sold in that territory during this time.

By Mr. Chappell: Objected to, first, as not material; second, as calling for hearsay testimony; third, that the testi-

mony will be incompetent when given, as the witness has not been shown to be qualified to give testimony on this point.

A. I do not think it would have been possible for them to have sold all of the drills.

Q. 59. What means or knowledge had you of the condition of that trade upon which you formed this opinion?

A. In the first place, a portion of the trade demanded a drill with a press wheel cover and without carrying wheels. Other of the trade demanded a drill which had a shoe, the front end of which could be raised or lowered. Another portion of the trade demanded a drill which had a lever to throw the shoe more or less onto the heel, as might be desired for the different conditions of the soil. A portion of the trade also demanded a drill with a double run feed, and there were various different points found in the different machines which pleased the trade better than those found on the Dowagiac machine.

Q. 60. When was the disk drill first introduced in that territory —double and single disk?

By Mr. Chappell: Objected to as immaterial.

A. My recollection is that the first disk shoes which were first introduced in the Northwest was in the spring of 1898.

Q. 61. How extensively have they been used since that time?

By Mr. Chappell: Objected to as calling for a conclusion of the witness, and a matter in which he has not been shown to be qualified to speak as an expert.

A. They have been used very extensively during the last few years. I would think that at the present time 75 per cent. of all the drills sold in the Northwest were either a double or a single disk device.

Q. 62. How long has that been the fact, Mr. Pattison, and how extensively have they been used from year to year?

A. The disk drill has been most popular in the Northwest for the last four years. Since they were first introduced, which, I believe, was in 1898, they have continued to grow in popularity.

Q. 63. I believe, Mr. Pattison, you have stated that you are

thoroughly acquainted with the trade in that territory, comprising Minnesota and the Dakotas?

A. I am.

Q. 64. And do you feel yourself competent to judge of the extent of the sales made up there?

A. I do.

Cross-Examination by Mr. Chappell.

X-Q. 65. Where were you educated for business, Mr. Pattison?

A. At Dowagiac, with the Dowagiac Manufacturing Company, and in the employment of Mr. J. R. Edwards, boot and shoe store, express office, and in various other capacities at Dowagiac, Michigan.

X-Q. 66. When did you go with the Dowagiac Manufacturing Company?

A. I think it was in the fall of 1889.

X-Q. 67. What was your age at that time?

A. I was 19 years old.

X-Q. 68. What were your duties at the plant of the Dowagiac Manufacturing Company?

A. The first duties on entering the office or the employ of the Dowagiac Manufacturing Company were general; I worked in the office, in the factory, and, in fact, general duties connected with the business, of most every kind and nature.

X-Q. 69. When did you first have experience in the selling of the Dowagiac make of drills?

A. The first experience was at the factory, at times farmers would come in to purchase drills, then only in a small way, but later in the Northwest, at Fargo, North Dakota.

X-Q. 70. When did you first see a Dowagiac shoe drill having parallel spring rods?

A. I believe that it was in 1891.

X-Q. 71. State where you saw it, and under what circumstances, giving the time a little more definitely, if you are able.

A. The first complete Dowagiac shoe drill that I ever saw with

the parallel rod pressure was at Fargo, North Dakota, I think in January or February of 1891, I believe.

X-Q. 72. Where had you been in the service of the Dowagiac Company during the latter part of the year 1890, say from June, 1890, up to January, 1891?

A. I think the greater portion of the time was at the factory.

X-Q. 73. Have you any way in which you can refresh your recollection as to that?

A. I have no way at the present time, but I have a diary at home which would give me the dates.

X-Q. 74. What enables you to recollect that in January, 1891, was probably the first time that you saw a Dowagiac shoe drill with the parallel spring pressure rods?

A. Because I was in the employ of the Dowagiac Manufacturing Company at Fargo, when these machines were sold.

X-Q. 75. When did you go to Fargo for the first time?

A. I think it was in January, 1891.

X-Q. 76. Was you at Fargo in the spring of 1890, April, when Mr. Hoyt went up there on a business trip, or don't you remember?

A. I was in Fargo at two different times when Mr. Hoyt made a trip there, but I don't recollect whether it was in 1890 or 1891; but one of the trips was in 1892.

X-Q. 77. Was you in Fargo in the spring of 1890?

A. I can't state definitely regarding the dates.

X-Q. 78. Your impression, however, is that you first went to Fargo for the Dowagiac Company in January, 1891, isn't it?

A. That is my impression; it might have been in 1890.

X-Q. 79. What sort of a grain drill was sold by the Dowagiac Company when you first went to Fargo, of the shoe drill type?

A. Well, they had two styles. The style that was worked mostly was the parallel pressure, but they had some drills with a flat spring pressure.

X-Q. 80. Did you ever sell any of the flat spring pressure shoe drills?

A. Yes, we sold a few of them, I think, in the spring of 1891.

X-Q. 81. Well, did you personally have to do with the selling of any of them?

A. I personally conducted a number of the sales made at Fargo up to closing a contract for the sale of the goods. I cannot recollect distinctly any particular case when I sold the flat spring pressure or the rod pressure, but I remember of being quite active in talking and showing up the drills to all customers who came for machines.

X-Q. 82. Were both machines set up as samples in the warehouse or at the place of business of the Dowagiac Company in Fargo?

A. No, not generally. We did not set up the flat spring drill until later in the season, except that we had one set up in the basement of the warehouse.

X-Q. 83. Later in the season was that put up on the main floor?

A. It was not—not to my recollection.

X-Q. 84. What was done with it later?

A. Sold.

X-Q. 85. How many of these flat spring pressure drills were sold, as near as you remember, by you, or further by the Dowagiac Company, while you was at Fargo?

A. I couldn't state definitely how many—I should think there was probably a couple of carloads of them.

X-Q. 86. Were those received at Fargo after you was there—after you went there?

A. I think some of them were.

By Mr. Starr: I desire to enter an objection to this line of cross-examination. It is not cross-examination of witness and is not material to the issues in this case.

X-Q. 87. State whether or not, to your knowledge, a record is kept by the Dowagiac Company that would show just when you went to Fargo.

A. I should think there would be a record showing the exact date.

X-Q. 88. You had an expense book, did you?

A. I believe that I did.

X-Q. 89. You don't remember positively, however; is that right?

A. I don't remember positively whether we had expense books at that time for my use or not. I believe they did.

X-Q. 90. Your experience you think dates from January, 1891, in the grain drill business in the Northwest; is that right?

A. I think that is correct.

X-Q. 91. Do you remember about how many grain drills were retailed at Fargo in the spring and summer of 1891?

A. I do not.

X-Q. 92. How many would you think, to the best of your recollection?

A. I only recollect the trade—the amount of the trade—that is, the approximate amount of the trade for one year, and I am not sure whether this was in '91 or '92.

X-Q. 93. How much was it for that year that you remember, approximately?

A. In the neighborhood of 200 drills.

X-Q. 94. How many drills were sold by the competitors of the Dowagiac Company at retail at Fargo at that time?

A. I am not prepared to state.

X-Q. 95. How many drills do you know of that you saw farmers taking out with them?

A. I saw farmers taking some drills from VanBrunt's warehouse, and also some from the Monitor—or I believe the firm was known then as the VanBrunt & Davis.

X-Q. 96. Where were their warehouses located, with reference to the Dowagiac warehouses?

A. The VanBrunt & Wilkins was right almost adjoining, I should judge there was probably thirty or forty feet, while the VanBrunt & Davis was farther away, probably half a block. I also saw some Superior drills being delivered.

X-Q. 97. You had opportunity, then, to see the farmers taking out these drills, didn't you, as you were around the place there?

A. Yes, sir.

X-Q. 98. Did it impress you that these other concerns were doing very much business?

A. Not as much as the Dowagiac Manufacturing Company.

X-Q. 99. They were doing very much less, were they not?

A. I should judge so.

X-Q. 100. Fargo was also a distributing point for the Dowagiac Manufacturing Company, was it not?

A. Yes, sir.

X-Q. 101. Have you any idea as to the quantities of Dowagiac shoe drills that were received there at Fargo?

A. I have not as to the total number. I know that I unloaded some fifteen or twenty carloads of drills early in the season.

X-Q. 102. How many would you think you unloaded later on, and do you refer to the season of 1891 or to the season of 1892?

A. I refer to the season of 1892.

X-Q. 103. And how much did you unload later on?

A. Well, I am not prepared to state, but it was several carloads.

X-Q. 104. How many people did you have to assist you in the matter of unloading these drills?

A. Well, sometimes I had three and other times but two.

X-Q. 105. Who were the people that assisted you?

A. I don't remember the names; they were help that was procured as we could find them. We had different help at different times.

X-Q. 106. How many men was it necessary to have to do this work besides yourself?

A. It was necessary to have two men.

X-Q. 107. Did you not unload fourteen carloads at the Great Northern depot with the assistance of one man?

A. I believe that I did unload, with the assistance of one man, at the Great Northern warehouse, several carloads, I don't remember just how many; I should think, though, it was as many as fourteen. Part of the time, I believe, during the unloading of the fourteen carloads I had two men, and, as I recollect it, one of them could not stand the work.

X-Q. 108. What were your other duties aside from this hand-

ling of drills, etc., while you were at Fargo in the years '91 and '92?

A. Well, my duties were general. I attended to making a great many of the shipments, assisted in making out reports and some correspondence, done traveling off and on, and general duties.

X-Q. 109. Did you not make out substantially all of the shipping bills and attend to the shipping out of all the grain drills that were sold during the season?

A. No, not all of them; I think I done the greater portion of that work.

X-Q. 110. Well, didn't those duties require that you be at Fargo substantially all the time during the busy season?

A. I was at Fargo most of the season, but when it was necessary for me to go out Mr. Fowle attended to those duties.

X-Q. 111. Do you mean to say that Mr. Fowle sent you out while he remained in the office at Fargo?

A. Yes, sir.

X-Q. 112. Please indicate some of these trips that you made first in 1891 and later in 1892, stating where you went and for what purpose, before the seeding was finished.

A. It was on February 5, 1892, I went to Wheaton, Minnesota; Grassville, Minnesota; Brownsvale, Minnesota. I left Fargo again on the 8th. I left Fargo on another trip on the 18th of February; again on the 25th—Crookston on the 25th; Forest River on the 26th; Grand Forks on the 27th; Neche, North Dakota, on March 2nd; Park River on the 3rd; Argusville on the 18th; Wahpeton on the 27th; Birch, South Dakota, on the 28th; Britton on the 29th; Redfield on the 30th.

X-Q. 113. February 18, 1892, where was you?

A. I was at Fargo on the 18th and took the 6 o'clock Milwaukee train for Wheaton, Minnesota.

X-Q. 114. Thence where?

A. I returned to Fargo on the 19th.

X-Q. 115. February 25th you went to Crookston; any other place?

A. I went from Crookston to Forest River.

X-Q. 116. February 26th where was you?

A. Forest River and Grand Forks.

X-Q. 117. February 27th you was at Grand Forks, and from Grand Forks you went where?

A. To Fargo.

X-Q. 118. What work was you doing at that time?

A. I was endeavoring to make contracts for the sale of drills.

X-Q. 119. As a matter of fact, wasn't the Dowagiac Company out of its particular make of shoe drills in February, 1892, and obliged to notify its customers to that effect?

A. In February?

X-Q. 120. Yes.

A. Not to my knowledge.

X-Q. 121. Might have been and you not know about it; is that right?

A. I think not. Many drills were sold after that date.

Thereupon the further taking of testimony in this case is adjourned until Friday, September 29, 1905, at 9 o'clock A. M.

Friday, September 29, 1905, 9 o'clock A. M. Parties met pursuant to adjournment, and cross-examination of the witness, Mr. Pattison, was resumed by Mr. Chappell as follows:

X-Q. 122. In the year 1892, on February 25th, you stated you went to Crookston, on the 26th to Forest River, 27th to Grand Forks, thence back to Fargo. Do you remember what business took you on that trip?

A. I do not remember my mission to Crookston on the 25th, as I have no notations to refresh my memory, nor do I remember my mission to Forest River, Neche, Park River or Grafton.

X-Q. 123. Well the dates 25th, 26th and 27th are one trip, are they not?

A. They are.

X-Q. 124. Do you remember what you went to Neche, North Dakota, for?

A. I do not.

X-Q. 125. Or to Park River on March 3rd, 1892?

A. I have a faint recollection that it was to check up some matter of repairs and other business that might have needed to be done at that time, but I am not sure just what the business was.

X-Q. 126. Do you know what took you to Park River on March 3rd?

A. I do not.

X-Q. 127. To Argusville on the 18th?

A. I went there to deliver a carload of drills to the farmers.

X-Q. 128. Do you remember to whom you delivered them particularly, any one?

A. I do not; I have no list.

X-Q. 129. Did you not go there to assist Mr. Grover in delivering these drills?

A. I remember of having some party with me, but do not remember whether it was Mr. Grover or Mr. Anderson.

X-Q. 130. Didn't Mr. Grover have charge of the trade on the east side of the river and Mr. Anderson on the west side?

A. I don't think that either one of them had charge of either; they simply acted as canvassers sent out under the direction of Mr. Fowle.

X-Q. 131. They worked under Mr. Fowle's instructions—Mr. Grover on the east side and Mr. Anderson on the west side of the river—did they not?

A. I know that Mr. Grover worked on the east side, but I don't remember where Mr. Anderson did.

X-Q. 132. What were your duties on March 7th, 28th, 29th and 30th of 1892, when you went to Wahpeton, Birch, Britton and Redfield?

A. I do not remember what my business was at Wahpeton; it was on some business that Mr. Fowle wished attended to at that point. Nor have I any notations which would refresh my memory on what was done at Birch on the 28th or Britton on the 29th. At Redfield, I was sent there to expert machines which were giving trouble in the field.

X-Q. 133. What farmer did you visit in Redfield to expert on the machines?

A. I don't remember the name of the farmer, but I visited several. Mr. A. Kemerer was the agent, and in company with his warehouseman we visited several farmers, I believe both on the 30th, 31st and April 1st.

X-Q. 134. What was the trouble with these machines that made it necessary for you to visit them as experts?

A. They wouldn't go into the ground.

X-Q. 135. What was the construction of the spring pressure on these drills that wouldn't go into the ground?

A. They had parallel rods for spring pressure.

X-Q. 136. What was the front end connection of the rods?

A. As I remember the front end connection of the rods, they were connected to the front end of the draw-bars by a bolt which passed through a clamp which held the springs as they leaped over and pressed on the front of the draw bar.

X-Q. 137. The front end of the—there was two springs in place of a single U-spring, is that what you mean?

A. Yes, sir.

X-Q. 138. What did you do to correct the machines and make them work?

A. Well, we resorted to several different means. One farmer we satisfied by telling him if he wanted to get into the ground deeper than he was doing that he should put more weight on his machine, and we took sacks of wheat and placed on the front of the machine—in fact, distributed them around over the machine. On another machine I took some pieces of wood and placed them between the draw-bar and the spring, using some wire and a clamp and one bolt, which, of course, made the spring at that time rigid, but it worked very well and we seemed to satisfy the farmer.

X-Q. 139. The machine on which you placed the sacks of wheat in order to secure the pressure was to add a load to the frame work of the drill so that the springs wouldn't raise the drill and its frame off the ground; wasn't that it?

A. Yes, that was what was intended.

X-Q. 140. The springs on that structure were sufficient to raise the structure from the ground substantially; is that right?

A. I don't remember; I suppose they were.

X-Q. 141. It would raise the same to the extent that the main wheels wouldn't work, wouldn't it?

A. It would if it was on hard ground, where it couldn't be penetrated.

X-Q. 142. Well, what was the circumstance in this particular case? Was the ground hard?

A. In places it was hard, in other places it was soft.

X-Q. 143. There was sufficient strength to the springs, but not enough weight to the drill to make it go into the hard places?

A. In some of the springs there was sufficient weight, in some there wasn't.

X-Q. 144. How much weight do you think there was in the different springs?

A. As I remember, there was as much as an inch difference, in this way, that the springs would show an inch of variation in their position as they stood along the side of the hopper attached to the shoe.

X-Q. 145. As a matter of fact, were not those springs tested before they were put in the machine, so that if they varied one-fourth of an inch they were discarded?

A. They might be tested in a mild way, but not in the manner that would guarantee them under long strain and severe strain to hold their position.

X-Q. 146. Do you know how they were tested?

A. As I remember, they were tested by a cam arrangement fit through the rear end of the spring down to as low a point or lower than they thought that it would be liable to ever come under in use in the field; but it was not done repeatedly.

X-Q. 147. How many inches were the springs depressed?

A. I don't remember how many inches the springs were depressed on this testing arrangement, but they were depressed beyond the amount that they were used on the machine, except, under-

stand, that in practical use on the machines and severe pressure—or I mean in extra strong pressure, the limit of the machine—they are under a continued strain all of the time, while in testing this cam arrangement, as I remember it, which threw the end of the spring down, simply done its work once.

X-Q. 148. Did that throw the end of the spring down 12 or 15 inches, do you think?

A. I can't remember how far it did throw the end of the spring down.

X-Q. 149. You have seen it worked, haven't you?

A. I have.

X-Q. 150. What would be your best estimate?

A. Well, it would be hard for me to estimate that.

X-Q. 151. You were not able to estimate in inches very well?

A. Not according to that test, as there was no gauge that they went by.

X-Q. 152. As a matter of fact, were not each and every spring depressed fourteen inches?

A. I could not state.

X-Q. 153. Would you thnk it was somewheres near that?

A. I don't remember. I shouldn't think that it was as much as that.

X-Q. 154. Just what was the purpose of putting in the wooden piece that you put in in the other instance, where you were making the drills work?

A. It was to hold the spring rigid and not make so much flexibility.

X-Q. 155. Did you succeed in having the thing operate all right then?

A. We succeeded in making part of the drills work, and the rest were returned.

X-Q. 156. To whom were they returned?

A. A. Kemerer.

X-Q. 157. What did he do with them after they were returned?

A. I don't know; I left there after the machines were returned.

X-Q. 158. How many drills did Mr. Kemerer put out that year?

A. I don't remember, but I think he put out between 75 and 100.

X-Q. 159. If the spring pressure on the shoes was sufficient to raise the main wheels off the ground in hard ground, what was to be gained by putting in the piece of wood or any other thing to make the spring stiffer?

A. Well, you understand that in all cases it wouldn't do, that the pressure wasn't sufficient. I not only found that result at that time, but many other times.

X-Q. 160. That is, there was a great difference in the pressure that would be exerted on the springs in different drills, although the springs in all instances, I suppose, were of the same diameter.

A. The springs were of the same diameter, as near as I can remember, but there was a difference in the temper of the springs. There was also, at times, a difference in the bending of the springs at the forward end.

X-Q. 161. What was the diameter of the rods of which these springs were made, if you remember?

A. I think those rods were 7/16 round.

X-Q. 162. Was any change made in the springs after this experience that you had with them, by the Dowagiac Company?

A. I am not sure, but I think that they improved, or endeavored to, on the quality of steel that went into the springs, and on their arrangements for tempering them.

X-Q. 163. Where were these springs made?

A. They were—I think that most of them were made at—formerly they were made at Kalamazoo; I believe afterwards they were tempered, the majority of them, and finished, at Dowagiac.

X-Q. 164. When were any tempered at Dowagiac that you remember of?

A. I don't remember that definitely; it is too long ago for me to.

X-Q. 165. Indicate the person who did the tempering there, as far as you remember, that you saw attending to the tempering; also state what facilities were provided at Dowagiac for tempering springs.

A. I could not tell as to that. I don't believe that they ever went into the tempering of the springs very extensively. The most of the springs, and the majority of them I believe, were made by the Harold Spring Company, of Kalamazoo, Michigan.

X-Q. 166. You have no recollection, then, of what you did at Wahpeton, Birch or Britton?

A. No, I have no notations which would refresh my memory on the duties at these points.

X-Q. 167. How many Dowagiac shoe drills with the parallel spring pressure rods were returned to the Dowagiac Company as defective, that you know of, during or at the end of the season of the year 1892?

A. I don't remember of any as being rteurned during that season. There might have been some, but I don't remember it.

X-Q. 168. Please indicate any changes that you know of your own knowledge that have been made in the Dowagiac spring structure since the year 1892, as applied to their shoe drills.

A. As to the spring pressure, I don't believe there has been any material changes. The only changes that I remember of as having saw would be in the connections of the draw-bars holding the spring pressure to the frame, and probably in the changing slightly of the form of the patterns in the yoke, and some other details which were not material.

X-Q. 169. Well, will you please indicate what these immaterial changes were that you know of definitely, not merely by a surmise, but what you definitely know of, of your own knowledge?

A. I could not state definitely, because I did not see the pattern work done. I saw the machines after the changes were made of the draw-bar connection when they changed from the wood frame to the steel frame.

X-Q. 170. That relates to the draw-bar construction and is independent of the spring; is that right?

A. Yes, sir, independent.

X-Q. 171. You don't know of any change made in the casting between the spring and draw-bars, do you?

A. I do not.

X-Q. 172. What was done by the Dowagiac Company to make the drills good that were returned to the Redfield agent, Mr. Kemerer?

A. I don't remember what was done. I haven't any recollection of what the settlement was.

X-Q. 173. If there was anything allowed for defects or repairs it would appear on the settlement sheets, would it not?

A. Yes, sir.

X-Q. 174. Do you know of any other difficulties that were had with the shoe drills during that season?

A. We had a number of complaints on pressure, and I believe I went out to a few other places but can't recollect the dates or the points.

X-Q. 175. You have no way of refreshing your recollection?

A. I have no way.

X-Q. 176. Please state some of the trips that you made during the year 1891.

A. I have nothing to refresh my memory with me as to the trips that I made during that time.

X-Q. 177. Well, as a matter of fact, you didn't make any trips at all in '91, did you?

A. Yes, I made some trips during '91.

X-Q. 178. Well, tell us about one, for instance.

A. I think I went to Fergus Falls, Minnesota, on one trip.

X-Q. 179. Do you remember what you went there for?

A. The trip that I have in mind that I went to Fergus Falls for was to get possession of some machines that was in the hands of a firm by the name of O. Bertelson & Co., who had been, as we call it in the implement business, stool-pigeoning our goods and selling instead a machine, as I remember, manufactured by the Stoddard Manufacturing Company.

X-Q. 180. Any other trip that you remember in the year '91?

A. I believe that I was sent to Britton, South Dakota, in the year '91.

X-Q. 181. For what purpose?

A. On collections.

X-Q. 182. Wasn't that trip in '92?

A. Well, I would have to look and see. No, my recollection is that my first trip to Britton was in 1891.

X-Q. 183. You have no way of refreshing your recollection on that?

A. I have not with me, no.

X-Q. 184. Wasn't the subject of spring pressure one of prime importance during this period with the farmers of the Northwest, as far as you observed?

A. I don't think that it was of prime importance. They were—the most important feature, and which they looked after closely—was the shoe, its shape and the fact of its traveling on the heel so that it would not push trash, having a V-shape, being cut off at the ends so that it wouldn't clog, or scatter the grain too much in the furrow.

X-Q. 185. But to have this shoe operate all right there had to be a spring back of it that would yield readily and at the proper time; isn't that right?

A. Yes, yes.

X-Q. 186. As a matter of fact, a shoe having all the characteristics of which you speak would not do business without a proper spring, would it?

A. I have saw very good work done with shoes that did not have a sensitive spring.

X-Q. 188. On what drills were these?

A. I have saw it on press drills.

X-Q. 189. Of what make?

A. I believe the Havana was the drill.

X-Q. 190. As a matter of fact, the Havana has a spring, hasn't it?

A. It has. The old type I don't believe had a spring, as I recollect, and they never had a spring on the Havana which you might call a yielding or sensitive spring.

X-Q. 191. After the Dowagiac drill was introduced the Havana substantially went out of business, didn't it?

A. No, sir.

X-Q. 192. How much did it lack of it?

A. They are still selling drills in the Northwest, and I understand from reliable authority gained at the Minneapolis Fair by their old agents that they sold within the last couple of years between 400 and 500.

By Mr. Chappell: The statement is objected to as volunteered and hearsay, so for as the witness is stating what was communicated to him by others.

X-Q. 193. You don't know where those drills were sold, do you?

A. This last—in the Northwest, mainly in Dakota.

X-Q. 194. You attended to the shipping out of the grain drills from Fargo, didn't you?

A. Largely.

X-Q. 195. That was one of your duties, wasn't it?

A. Yes, sir.

X-Q. 196. Another duty was to receive the goods shipped in from Dowagiac and see to it that they were properly unloaded, etc.?

A. Yes, sir.

X-Q. 197. You was substantially the warehouseman for the Dowagiac Company and their shipping clerk at that point?

A. I was warehouseman, office man, shipping clerk, traveling man, and, in fact, attended to duties in every department in connection with the business. The first carload of drills I ever sold in my life I sold while at Fargo.

X-Q. 198. When did you sell that carload and to whom?

A. On February 6, 1892, at Beardsley.

X-Q. 199. To whom did you sell them?

A. I have not the name of the agents.

X-Q. 200. What year was this?

A. '92.

X-Q. 201. What sizes of drills?

A. I don't remember.

X-Q. 202. What state was this?

A. It must have been in Minnesota, as I was at Brownsvale on the same date.

X-Q. 203. Did you write the contract and finish up the deal?

A. I don't remember, but I suppose I did.

X-Q. 204. Was that done at Fargo or at Beardsley?

A. Beardsley; there's where I sold the goods. I was also trying to place an agency at Brownsvale, but didn't succeed.

X-Q. 205. If you entered this contract and it was signed by you on behalf of the company your name would appear there, wouldn't it?

A. I think so.

X-Q. 206. How often did you show up drills when you was there at Fargo to the farmers; do you remember?

A. During the busy season nearly every day.

X-Q. 207. In showing up a drill how did you go at it; what did you do first usually?

A. Well, it is hard to tell; it was according to the customer.

X-Q. 208. Ordinarily what did you do first?

A. Well, it is too long ago for me to remember.

X-Q. 209. Well. in the selling of a Dowagiac drill isn't it usually one of the first things that is done to throw the lever or levers which apply the spring pressure, and show that the spring pressure is sufficient to raise the bulk of the machine bodily from the floor?

A. Not with me in selling, it wasn't.

X-Q. 210. Well, that is the usual way, is it not, that you have observed?

A. I couldn't say how others—

X-Q. 211. Then after the springs have been set in that way the salesman would ordinarily take hold of one of the covering chains and pull up the shoe a foot or such a matter, to show the abundant action of the spring, would he not?

A. I have seen them take hold of the covering chain and pull the shoe up to show the tension on the spring—have done so myself.

X-Q. 212. That, in substance, was the thing, and about the only thing, that could be done with the Dowagiac drill that could distinguish it positively from any other drill, was it not?

A. It was not. You could take a man around to the side of the machine and show him how the shoe stood with relation to the ground, the perpendicular discharge of the grain, the strength of the frame, and many other details.

X-Q. 213. Those things were mere incidents that would not enable you to sell the drill, were they?

A. They certainly would. Without having the shoe raised high and V-shaped, and the end cut off, it would be hard to sell the machines.

X-Q. 214. Are you familiar with the old style of Kentucky shoe drill?

A. I am.

X-Q. 215. Where did you ever see one?

A. How old a machine do you mean?

X-Q. 216. Such as they sold prior to 1890.

A. No, I am not familiar with the machine that they sold prior to 1890.

X-Q. 217. I call your attention to Figure 1 of the patent to Brennan, Taylor & Lynam, which has already been offered in evidence, No. 193,075, of July 17, 1877, and ask you if you understand the construction of shoe that is illustrated in Figure 1 thereof?

A. I believe I understand the structure.

X-Q. 218. Well, that is a V-shaped shoe with its heel cut off and the perpendicular discharge, the shoe traveling on the point of the heel, is it not?

A. It is.

X-Q. 219. You never saw a drill of that description made by the Kentucky Drill Company or Brennan & Co. on sale in the Northwest, did you?

A. No, sir.

X-Q. 220. Mr. Grover and Mr. Anderson were regularly employed as local salesmen or canvassers in the years 1891 and 1892, at Fargo, were they not?

A. They were employed as canvassers during the busy season —during the selling season, I should say, instead of busy season— and also to assist in Mr. Anderson—Mr. Anderson also assisted in the warehouse, assisting in unloading cars and doing various other work that was necessary to be done.

X-Q. 221. Do you know what wages they received?

A. I don't remember what wages they received.

X-Q. 222. What wages did you receive?

A. I received, I believe, about—I think it was $40 a month that they gave me regularly, and my expenses, which included my board, and at the end of the season they gave me a check for—made me a present of a check for some amount; I don't remember; I think $50 or something of that kind.

X-Q. 223. That was to cover extra time you had worked, I suppose?

A. No, it was, they stated, for—to cover—well, they gave it to me, as I suppose, for the satisfaction of the work; I always termed it as such.

X-Q. 224. During the season you were obliged to put in a good deal of time in the evenings, were you not?

A. We were busier during the evenings than we were during the day—that is, during the fore part of the day we were not so busy, owing to the fact that the mails all came into Fargo late in the evening and we generally endeavored to get out the work before the mail went out in the morning.

X-Q. 225. Didn't Mr. Anderson and Mr. Grover each of them receive $65 a month and their expenses for the work they did?

A. I think Mr. Grover got somewhere near that, but, as I remember it, furnished his team also, or looked after the—I think he furnished a team also.

X-Q. 226. Did not Mr. Grover drive a team of ponies that the

Dowagiac Company took from a customer at Britton, South Dakota?

A. I don't believe he did all of the time, he might part of the time.

X-Q. 227. Well, when you went to Wheaton on February 5th you went up there under specific instructions relative to the sale of a single grain drill, did you not, and you brought back with you a contract signed by Mr. T. Kuhn, a blacksmith there, in which he had scratched out a good many of the provisions of the contract, and the contract was not accepted by Mr. Fowle; isn't that right?

A. I went up there to see—I believe the party's name was Rea or McRea. As I remember it, their company were in trouble in some manner there with the agency, and to the extent that it afterwards went into some litigation, but I don't remember fully regarding this matter of contract. I have no notations to refresh my memory.

X-Q. 228. A grain drill was sent up to Mr. Kuhn, or the party at Wheaton, with a statement that it was not sent up under the contract; that the same was inquired about, there was no reply, and you was sent up there again on the 18th of February, when you found that that grain drill had been sold and the party Kuhn declined to turn over the farmer's notes, or the proceeds of the sale, whatever it might have been, until he had been paid $50 as his commission; isn't this a substantially correct statement of the facts?

A. I have a notation in my diary which refreshes my memory to the effect that I was at Wheaton on the 18th trying to contract, but it doesn't say who I was trying to contract with.

X-Q. 229. Who were the agents there with which the Dowagiac Company was having trouble on February 5th, as you remember—this all occurring in the year 1892, as I understand?

A. I don't remember.

X-Q. 230. You have no notation that you found that the grain drill had been sold or anything of that kind?

A. I have not.

X-Q. 231. Do you not remember that before you visited Wheaton the last time that the Dowagiac Company had been short of

grain drills, and that his party up there had been requested to return the drill if he had not sold it, there was no reply from him and that you went up to get the drill if possible?

A. I do not remember anything of that kind. I do not remember of us being short of drills, except in delayed shipments occasionally.

X-Q. 232. You don't remember that the supply manufactured by the Dowagiac Company was exhausted, so that it was necessary to notify the agents in February, 1892, of the Dowagiac Company, that—February 14th, to be exact—that it would be necessary for them to secure drills elsewhere, as the company could not supply any in addition to what had already been contracted for?

A. I don't remember of any such——

X-Q. 233. Well, your duties as a general, all-around man in the office——

A. I don't remember any such letter being sent out to the trade generally, and I don't think there was, but there were some of the trade notified to this effect; there was.

X-Q. 234. Don't you remember of a quantity of such letters being sent out one evening after the mail had been received?

A. I have no recollection as to the quantity.

X-Q. 235. But you do remember some, is that right?

A. Yes, sir, I do.

X-Q. 236. You remember they were short on drills to fill their contracts at that time, do you—to fill later orders, I should say, at that time?

A. We run out of drills at several times during the season, but it was by reason of slow shipments from the factory.

X-Q. 237. But on this occasion it wasn't a matter of slow shipments, but they miscalculated the number that would be required; isn't that right?

A. It was—yes, I believe it was.

X-Q. 238. There were orders for some 700 or 800 drills sent to Dowagiac in a period of five days during that season, were there not?

A. I don't remember the quantity.

X-Q. 239. It was a large quantity, was it not?

A. Yes, sir.

X-Q. 240. I will ask you to consider carefully this question: In the month of January, February and March, 1891, was there not a 20-shoe drill—the only sample that was set up—in the front part of the warehouse, located so as to somewhat interfere with moving freight there or moving drills out and in at the front; that the pressure lever was a straight lever, so that it was not possible to adjust the same to get the full pressure on the pressure springs? Did you not, with Mr. Fowle, file the lever sockets to cause them to throw the rock shaft sufficiently to raise the main wheels off the floor when in next to the last notch, and wasn't the factory then written as to this slight defect in the construction, and did they not afterwards put bends in their levers? Do you not remember the circumstances as I have stated, or substantially these circumstances?

A. I remember a sample drill being set up for exhibiting to the trade, but the only recollection I have of doing anything to increase the pressure was along in March.

X-Q. 241. What did you do then?

A. I don't just recollect, but I have a faint recollection, however, that we bent the levers and filed the ratchet and Mr. Anderson and I were trying to figure out some means whereby we could increase the pressure without too much of a change in the machine, but nothing was accomplished.

X-Q. 242. Didn't you file the lever socket rather than the ratchet, and put in a plug to fill up the space?

A. I believe something of that kind was done.

X-Q. 243. And that was so that a more complete exhibition of the spring pressure might be made, wasn't it?

A. It was so you could throw the lever over further and get the full benefit of the ratchet.

X-Q. 244. This change enabled the lifting of the main wheels off the floor, did it not?

A. I believe it did.

X-Q. 245. When that twenty-shoe drill was put in condition in

that way so it would lift the main wheels off the floor it was customary to show that each individual spring had a free action by taking hold of one of the cover chains and lifting it up?

A. I believe among the different points that we talked and exhibited that this was resorted to; that was one of the features that was showed up in connection with the drill.

X-Q. 246. You referred to a large number of different drills that were on sale in the Northwest; the first that I think you mentioned was the VanBrunt. Mentioning these drills, did you refer to the shoe drills only, or to shoe drills and disk drills, and did you include also press drills?

A. I believe in some of the questions I answered I referred to shoe drills and press drills; in answering other questions I referred to shoe, press and disk drills.

X-Q. 247. What do you know about the quantities of VanBrunt shoe drills that were sold?

A. I believe that the VanBrunt had the next largest sale of any drill sold in the Northwest while I was there.

X-Q. 248. Which had the largest?

A. The Dowagiac.

X-Q. 249. Just what do you know about the sale of the VanBrunt drill? What did you have to do with it that qualified you to speak as to quantity?

A. In making settlements—and I probably made half of the settlements that were made in the Northwest in 1892—I talked with nearly every dealer, I talked with every dealer that I visited, regarding the sale of the different machines; visited several VanBrunt agents; our warehouse was located next door to the VanBrunt's; I was well acquainted with their general agent and knew about what he was doing right along.

X-Q. 250. VanBrunt drills were sold for less money than the Dowagiac, were they not?

A. I do not think they were.

X-Q. 251. Do you know anything about that?

A. I have no recollections now of any particular instances where they were sold for less, but—

X-Q. 252. You don't know of any instances as to exactly what they were sold for? If so, state what they were.

A. I don't recollect at this time the prices quoted, but in a general way we didn't consider that the VanBrunt was competition that resorted to cut prices.

X-Q. 253. You had nothing to do either as agent or director about the sale of the Monitor shoe drill, did you?

A. I had nothing to do with the sale of the Monitor.

X-Q. 254. All you know about the Monitor, then, is something that you saw and know about it only in a general way; is that right?

A. Yes, during that time, during 1892 or the time that I was in the Northwest employed by the Dowagiac Manufacturing Company.

X-Q. 255. Well, was you employed in the Northwest by the Dowagiac Manufacutring Company subsequent to that?

A. Was I?

X-Q. 256. Yes.

A. Not by the Dowagiac Manufacturing Company.

X-Q. 257. When was you next in the Northwest after 1892, and what opportunities did you have for observing the sale of shoe drills since 1892?

A. In—I don't remember just the date that I went into the Northwest at which time I could observe the sales of these different drills except in '97.

X-Q. 258. How long was you there in '97, what was the occasion of your visit, where did you go, and what did you do?

A. I was then in the employ of the Hayworth & Sons Manufacturing Company—and I will correct that—it was in '98, in the spring of '98, instead of '97. I was then in the employ of the Hayworth & Sons Manufacturing Company at Decatur, Ill., as manager, and we were experimenting—building and experimenting on a line of grain drills, and it was necessary to go to the Northwest to make

some tests, and also to arrange for contracts for the sale of our goods.

X-Q. 259. The Monitor drill and also the VanBrunt drill were patented drills, were they not?

A. I suppose they were.

By Mr. Starr: We object to the supposition. State the fact, if you know it.

X-Q. 260. You don't know about it, as I understand?

A. They were.

X-Q. 261. What opportunity did you have to observe the sale of Havana drills? What was the extent of the sales, so far as you noticed, in '91 and '92? What opportunities have you had of observing the sale of the same in the Northwest since '92?

A. In traveling over the territory at different points, and in making settlements in 1892, I found a number of places where the Havana had been sold as well as other drills, and since my last trips in '92 in the Northwest up until the present time, commencing in '98, I have made a great many trips to the Northwest, and through our agents and representatives that we had in that territory, and also through the traveling which I done, I have kept in general touch with the amount of the different drills sold, but am not prepared to state the quantity of drills sold by each company.

By Mr. Chappell: That part of the testimony that states what others told the witness is objected to as hearsay.

X-Q. 262. What do you know about the Tiger drill of the same period as I have indicated for the Havana?

A. They sold some drills.

X-Q. 263. Very few, however, in the Red River Valley, I suppose?

A. I don't think that they sold very many drills; I never saw many points where they had a very extensive trade.

X-Q. 264. Their structure was at first a coiled spring structure, was it not, for pressure on the shoes?

A. I believe it was.

X-Q. 265. They afterwards abandoned the coiled spring structure and adopted a flat bald spring that was connected to the forward end of the draw-bars and pressure applied to the rear, was it not?

A. They first used the coiled spring and then used a flat spring, and have since gone back to the coiled spring.

X-Q. 266. The coiled spring they went back to wasn't the same spring they had used before, was it?

A. No, it was a different device.

X-Q. 267. All of those devices are patented, I suppose?

A. I could not say.

X-Q. 268. Where did you see any Farmer's Friend shoe drills sold in the Northwest?

A. At Moorhead, and I believe at Fargo also.

X-Q. 269. What agents had them?

A. I don't remember the names of the agents.

X-Q. 270. You never saw them anywhere else, did you?

A. Yes, I believe I saw them other places. I know that I saw them other places in the territory, but I don't remember just what points.

X-Q. 271. Please describe the construction of the Farmer's Friend shoe drills which you saw.

A. I don't believe that I could describe the Farmer's Friend shoe drill intelligently. It has, as I remember, a coil spring pressure, but I don't remember—I gave this little attention, as it was a machine that didn't have much sale.

X-Q. 272. The Superior shoe drill didn't have much sale, either, did it?

A. The Superior shoe drill had a pretty fair sale.

X-Q. 273. Went out of the market early, in a very short time, didn't it?

A. I didn't go out of the market while I was in that territory in the Northwest, and never has been out of the market—the Superior drill hasn't.

X-Q. 274. I refer particularly to the Superior shoe drill as distinguished from the disk drill.

A. I don't remember of the shoe drill having gone out of the market while I was in the territory.

X-Q. 275. You had no direct connection with the Superior drill or its manufacturers—don't know except by hearsay; is that right?

A. At that time.

X-Q. 276. Have you ever had any connection with them since?

A. I wouldn't like to answer that question; it would not—it might be of injury to me.

X-Q. 277. Do you know whether or not the Superior Company put out a flat spring pressure similar to the Peoria at one time?

A. I never saw a flat spring pressure similar to the Peoria on a Superior drill. I saw a Superior drill, however, with a flat spring pressure, exhibited on the Fair Grounds in Milwaukee, and it is the only one that I ever saw manufactured by the Superior Drill Company.

X-Q. 278. That was put up substantially along the lines of the Dowagiac drill, wasn't it, except that the spring was flat in place of round?

A. I believe that it was—that it was on the lines of the—more on the lines of the Kentucky.

X-Q. 279. The Richmond-Champion has been an infringement of the Dowagiac, hasn't it, that you have referred to?

A. I couldn't say as to that.

X-Q. 280. By whom was the Buckeye drill made?

A. P. T. Mast Company.

X-Q. 281. You are aware that P. P. Mast has since made a drill in infringement of the Dowagiac, are you not?

A. I am aware of the fact that the P. P. Mast people made a shoe drill with a parallel spring.

X-Q. 282. You are not aware that that had been conceded to infringe, since the litigation in this case and in the Brennan case?

A. I was not aware that it had been conceded as such.

X-Q. 283. Referring to the Dowagiac catalogues that have been

offered in evidence, I will ask you if the principal detailed illustrations that are repeated and shown all the way through those catalogues are not the Dowagiac shoe with the draw-bars and spring pressure devices.

A. In the 1891 catalogue I find four detailed illustrations of parts, of which two of them refers to the spring pressure. I find in the catalogue of 1895 seven detailed illustrations, of which two show the spring pressure. In the 1896 catalogue I find seven detailed illustrations of parts, of which two show the spring pressure. In the catalogue of 1898 I find seven detailed illustrations, of parts, of which two show the spring pressure. In the catalogue of 1898, the second one, I find eleven detailed illustrations of parts, of which two show the Dowagiac parallel rod spring pressure. In the 1899 catalogue I find ten detailed illustrations of parts, of which two show the Dowagiac spring pressure. In the 1900 catalogue, I find twelve detailed illustrations of parts of drills, of which three show the Dowagiac spring pressure. In 1902 I find eleven detailed illustration of parts, of which two shows Dowagiac parallel rod pressure. In 1902 I find thirteen detailed illustrations of parts, of which two show the Dowagiac parallel rod pressure. In 1903 I find fourteen detailed illustrations of parts, three of which show the Dowagiac parallel rod pressure. In 1904 I find eight detailed illustrations of parts, of which two show the Dowagiac parallel rod pressure. There is two 1904's; in the second 1904 catalogue I find fourteen detailed illustrations of parts, of which three show the Dowagiac parallel rod pressure.

X-Q. 284. In nearly all of the full illustrations of the Dowagiac drills appearing in these catalogues, of the shoe type, the machines are so arranged, with very few exceptions, as to exhibit the parallel spring rod pressure devices, are they not, and there are numbers of these illustrations?

A. With the illustrations of the complete machines it would be a difficult matter to determine the style of pressure on the front views—those known as the front views, as it would also be difficult in some of the rear views, owing to the position of the machine

and the size of the cut. There are several machines, however, illustrated in the catalogue, which show the spring pressure— Dowagiac parallel rod spring pressure.

X-Q. 285. At what fair was it that you first saw the Peoria shoe drill, about which you testified yesterday?

A. It was at the Minnesota State Fair, held near Minneapolis.

X-Q. 286. What year?

A. I am not sure whether it was 1897 or 1898; it was, I believe, in 1898.

X-Q. 287. You say "we" considered it the best shoe grain drill shown there. To whom does the "we" refer?

A. A Mr. Robey, superintendent of the Hayworth & Sons Manufacturing Company, and myself.

X-Q. 288. Did the Hayworth people have a drill there at that time, of the shoe variety?

A. They did.

X-Q. 289. Why did you consider the Peoria better than the Hayworth?

A. It was a better machine in a number of ways. It was better finished; it had wheels with long hubs; it had a feed that had a spring to take up all of the wear; it had a chain hitch; it had the receivers which attached to the rubber tubes covered at the top with a projection on the castings so that the seed would not blow in windy weather; it had a convenient lever arrangement; it had stronger corners on the frame; it had two truss rods through the grain box, and was heavier trussed and better trussed than our machine.

X-Q. 290. Was the Hayworth drill a patented drill?

A. Patents were applied for.

X-Q. 291. It has since been patented, hasn't it?

A. It has.

X-Q. 292. Referring to the Hoosier drill, was that the drill that infringes on the Dowagiac that you refer to, or some other make of Hoosier drill?

A. I referred to the Hoosier drill; I am not prepared to state

whether their drill is an infringement on the Dowagiac or any other drill. The spring pressure was a coiled spring pressure.

X-Q. 293. You are aware that they have made a spring pressure having a rod with a loop or coil in it which is connected to the front end of the draw-bars, to apply pressure, after the manner of the Dowagiac construction, the springs extending rearwardly and connecting by a suitable link to a hollow shaft-arm, are you not?

A. I remember that they had a spring pressure that was attached to the draw-bars in front of the hopper or conducting spout.

X-Q. 294. That is the point where the rock shaft arm was connected, is that right?

A. Near that point, yes.

X-Q. 295. Please briefly describe the Indiana drill, and state who makes it.

A. The Indiana drill is made by Rood Bros., of Liberty, Indiana.

X-Q. 296. How many of their shoe drills did you ever see on sale in the Northwest?

A. I have never saw a great many of their shoe drills on sale in the Northwest—very few.

X-Q. 297. The Kentucky, I suppose, is the one that has been held to infringe the Dowagiac, that you refer to, and the McSherry is also one that has been held to infringe the Dowagiac; is that right?

A. Yes.

X-Q. 298. The Fuller-Lee drill to which you referred is a disk drill, is it not?

A. Yes.

X-Q. 299. The Empire drill that you referred to until lately has been a press drill, has it not?

A. The Empire? I never knew the Empire to make a press drill.

X-Q. 300. Please indicate in a general way what the Empire shoe drill has been, so far as you have noticed it.

A. The Empire shoe drill has been a shoe drill built something

on the lines of the other high heel drills, sold in that territory, like the Kentucky and the Dowagiac and Hoosier.

X-Q. 301. The Cassopolis is the one that has been held to infringe the Dowagiac patent, I presume?

A. I understand it has, as it was formerly made.

X-Q. 302. The Fountain City drill has never sold in the Northwest very much, has it?

A. It has been sold quite extensively.

X-Q. 303. Since when—that is, of the shoe variety?

A. They have had a good trade on their drill since, I believe, 1898.

X-Q. 304. The Fountain City Drill Company went out of business, didn't they?

A. They sold out to P. T. Mast & Company, who manufacture grain drills.

X-Q. 305. That Fountain City drill I presume you are aware is a patented drill?

A. Yes, sir.

X-Q. 306. The Richmond-Champion drill to which you referred is another drill that has been held to infringe the Dowagiac, isn't it?

A. I understand it has.

X-Q. 307. Is the Hayworth drill being manufactured now?

A. It is.

X-Q. 308. Who manufactures it?

A. Chambers, Beer & Quinlan.

X-Q. 309. Do you think it would make any difference with the farmer whether it was a double run feed or not, on any grain drill that is sold in the Northwest?

A. I think that there is farmers in that country who would have nothing else but a double run feed, and there is farmers who would have nothing else but a fluted feed.

X-Q. 310. Well, suppose they could not get the double run feed with the proper spring pressure device on the shoe, do you think they would be inclined to buy the double run?

A. I believe they would. It will make a more uniform flow of seed.

X-Q. 311. Of shoe drills at the present time, I understood you to say yesterday that you estimated seventy-five per cent. of the shoe drill spring devices were coil spring pressure devices?

A. They are.

X-Q. 312. In that connection you used the expression "disk shoes;" did you include the disk drills in that remark?

A. I should not have said disk shoe—disk *and* shoe.

X-Q. 313. Well, taking the shoe drills alone, what proportion do you think are parallel rod, and what proportion do you think are coiled spring, as they are marketed at the present time?

A. I think the majority of drills marketed at the present time have the coiled spring pressure.

X-Q. 314. That is, of the shoe variety?

A. Of the shoe variety.

X-Q. 315. What are the sources of your information that make you—from which you draw your conclusion?

A. The leading drill companies who enjoy the largest trade throughout the United States are making their shoe drills with coiled spring pressure, with few exceptions.

X-Q. 316. That, I suppose, is since the Dowagiac Company has been successful in enjoining the other kind, isn't it?

A. I could not say as to that.

X-Q. 317. You are aware that the Dowagiac has obtained numerous injunctions restraining infringement of their patent, are you not?

A. I am only aware of two cases, I believe—three cases.

X-Q. 318. How many shoe grain drills of the Dowagiac type do you think have been sold by the Dowagiac Company and how many of the coiled spring type by others yearly for the last three years in the Northwest?

A. I believe that the majority of shoe drills sold in the Northwest during the last three years have been fitted with a coil spring pressure.

X-Q. 319. State about how many you think the Dowagiac Company has sold, from your observation, and about how many the other concerns have sold, so far as you are able to estimate it, from your observation, giving the sales annually during that time.

A. It would be hard for me to give any definite estimate as to the number of drills sold by the several companies.

X-Q. 320. So when you went into that part of your testimony it was mere guesswork, wasn't it?

A. No, it is not guesswork because of the reason that we have representatives traveling over the trade who send us reports from time to time on how the different drills are being contracted by the agents throughout the territory.

X-Q. 321. Well, then, it is hearsay, and your testimony is not very definite, isn't that right?

A. I don't consider it hearsay, as it is written reports coming from our representatives.

X-Q. 322. Not very definite, however, is it?

A. We consider it as such.

X-Q. 323. Then give your estimate as to how many of these drills have been sold by the Dowagiac Company in the last three years, and how many you think have been sold by others, if your information is definite.

A. I can't give you a definite number, but the reports coming in to me, which I review carefully, are sufficient only to enable me to draw conclusions as to who is having the best trade in the different lines—for drills.

By Mr. Chappell: The testimony of the witness, so far as it relates to the reports of others and to the matter of his conclusions, is objected to, so far as it appears both in the cross-examination and in the direct examination.

X-Q. 324. About how many shoe grain drills have been sold annually by Selby-Starr and the Peoria Drill & Seeder Company since you have been in their employ?

A. I am not prepared to state how many drills were sold by—

shoe drills have been sold—as I have never attempted to separate the different varieties of drills sold.

X-Q. 325. Then you are not able to state anything definite about those shoe drills which you are directly interested in the manufacture and sale of?

A. Not definitely.

X-Q. 326. Well, state in a general way, then, about how many per annum.

A. In 1905 spring trade, I estimate that our sales in the Northwest on shoe drills were about 125. That is, the Peoria Drill & Seeder Company sales. In 1904 I do not believe that the sale on shoe drills was over 100. In 1903 I believe that 250 would more than cover the number of sales.

X-Q. 327. How have your sales compared with others using coiled spring pressure device, so far as you know?

A. We have not had near the trade of some of the others using coiled spring pressure device.

X-Q. 328. Will you please produce a catalogue showing the feed device of the Peoria shoe drill, if you have one?

A. I produce such a catalogue.

X-Q. 329. The feed is illustrated on page 9 of this catalogue, is it not?

A. Yes, sir.

X-Q. 330. What is the use of the coiled spring there illustrated in that feed?

A. It serves to keep the cut-off tightly against the fluted roller, and uniformly hold it to its position.

X-Q. 331. This was used, as far as you know, on all of the feeds sold by Selby, Starr & Company?

A. It was.

By Mr. Chappell: The catalogue, so far as this feature is concerned, is hereby offered in evidence by complainant's counsel, with the request that it be marked "Complainant's Exhibit Selby-Starr Catalogue," it only being desired to refer to the same so far as this feed illustration is concerned.

X-Q. 332. The disk drills that have lately been introduced in the Northwest are all patented structures, as far as you know, are they not?

A. They are.

X-Q. 333. What is the exact date of your birth?

A. March 12, 1868, I believe.

Re-Direct Examination by Mr. Banning.

R-D. Q. 334. You have been asked on cross-examination as to whether shoe drills having shoes of the proper shape and quality of steel, and mounted in the proper position, could be readily sold if the spring pressure device were not satisfactory. Now, I will ask you whether shoe drills could be readily sold if the spring pressure device were satisfactory in every respect, but the shoes were not of the proper shape or quality of material or angle of mounting?

A. They could not.

R-D. Q. 335. Then, no matter how good and how satisfactory the spring pressure device may be, it of itself is not sufficient to sell the drills, is that it?

A. It is not sufficient.

R-D. Q. 336. After you ceased working for the Dowagiac Company in the Northwest, which, I believe, was in the year 1892, where did you go?

A. I went back to Dowagiac, Michigan.

R-D. Q. 337. Still in the employ of the Dowagiac Company?

A. Yes, sir.

R-D. Q. 338. How long did you remain there at Dowagiac in the employ of that company?

A. Until July 16, 1892.

R-D. Q. 339. Then where did the company send you?

A. To Kansas City, Missouri.

R-D. Q. 340. How long were you in Kansas City, Missouri, in the employ of the Dowagiac Company?

A. Until about October 1st, 1892.

R-D. Q. 341. Then what did you do?

A. Returned to Dowagiac, Michigan.

R-D. Q. 342. Were you sent back again to Kansas City?

A. I first was sent back to Fargo on October 7th, and remained at Fargo, North Dakota, until about the Holidays. I then returned to Dowagiac, Michigan, and after probably a week or ten days, I was sent out—or rather, given charge of the territory tributary to Dowagiac, in Michigan and Indiana. I traveled probably a week or ten days and was called in and sent to Kansas City to take the place of the general agent there, Mr. E. P. Wagor, and remained there in charge as general agent until, I believe, November, 1897.

R-D. Q. 343. Then what did you do?

A. I resigned and accepted a position as manager for Hayworth & Sons Manufacturing Company, Decatur, Illinois.

R-D. Q. 344. About when did disk furrow openers appear in the Northwest on grain drills, if you know?

A. I think the first of them appeared along in the year 1897.

R-D. Q. 345. They have gradually grown in favor in the Northwest, have they not?

A. They have.

R-D. Q. 346. Do you know what kind of soil is called gumbo soil in the Northwest?

A. Yes, I believe I know the localities where the gumbo soil is.

R-D. Q. 347. I will ask you whether the sale of shoe drills with coiled spring pressure devices has been in the territory where gumbo soil is to be found, as well as elsewhere?

A. Yes, sir, they have.

R-D. Q. 348. They will work in gumbo soil, with they?

A. Yes, sir.

Re-Cross Examination by Mr. Chappell.

R-X Q. 349. A shoe having the shape riding well up on the heel, with a perpendicular discharge for the grain, you think is essential to a salable shoe drill, do you?

A. I think that a V-shaped shoe with an almost perpendicular discharge of the grain at the heel, and the shoe traveling high in front to avoid the collection of trash, is highly essential to a shoe drill.

R-X Q. 350. The Havana drill did not have any of these features, did it?

A. It did not. The Havana drill was a press drill, or a different type of a machine.

R-X Q. 351. Would not have anything to do in interfering with the sale of shoe drills at all, would it?

A. Yes, it would; wherever the Havana drill was sold it would hurt the sale of a shoe drill.

R-X Q. 352. Well, in a certain sense the press drill is a shoe drill, isn't it—that is, it is provided with runners, with spring pressure devices for forcing their way into the ground, and that cut their way into the ground?

A. It is not termed a shoe drill, but as a runner press drill.

R-X Q. 353. What type of drill was the Buckeye drill?

A. The Buckeye drill was more on the lines of—the Buckeye drill was rather a combination of a press drill and a shoe drill, made with low carrying wheels.

R-X Q. 354. It had a long runner that was not tipped up on its heel, and it did not have the perpendicular discharge at the end of the heel, did it?

A. It had a long runner—some of them had a long runner with an open heel, which made a perpendicular discharge of the grain, but the heel being open, allowed the mud to collect.

R-X Q. 355. It was not a salable article, was it?

A. It had a very large sale one season that I know of.

R-X Q. 356. What season did it have a large sale?

A. I don't recollect distinctly whether it was in 1890 or 1891.

R-X Q. 357. Nobody wanted it the second season; is that right?

A. I don't remember as to that. They continued to sell the machine.

R-X Q. 358. One season's business substantially ended it, didn't it?

A. No, the P. P. Mast Company have always sold the Buckeye drill in the Northwest ever since I have been connected with the grain drill business.

R-X Q. 359. They departed from that construction, however, and adopted one in infringement of the Dowagiac, didn't they?

A. I couldn't say as to that.

R-X Q. 360. You are not informed; is that it?

A. Sir?

R-X Q. 361. You are not informed, is that it?

A. My recollection is that they first made one with a coiled spring pressure, of the high-wheeled type, and afterwards they made a drill with a flat spring pressure.

R-X Q. 362. But you are not informed that the flat spring pressure has been conceded to be an infringement of the Dowagiac; is that it?

A. Not until to-day.

R-X Q. 363. The flat spring pressure was along the line of the Kentucky that you referred to, wasn't it?

A. Yes, sir.

R-X Q. 364. The press drill required an extra horse or so to draw the machine of the 20-runner type of the Dowagiac manufacture, did it not?

A. I believe it did, on account of the press wheels.

R-X Q. 365. And also because the runners rested on the ground to such an extent; isn't that so?

A. There were several reasons for it; it was a heavier machine, it had no carrying wheels, it necessarily run harder. Press drills of that type were considered heavier than high-wheel drills.

Re-Direct Examination by Mr. Banning.

R-D. Q. 366. From your knowledge of the various kinds of shoe drills that were sold in the Northwest in competition with the Dowagiac shoe drill, what is your opinion as to whether or not, if the

defendants had not sold any shoe drills the Dowagiac Manufacturing Company's sales of shoe drills would have been increased to the extent of the sales made by the defendants?

By Mr. Chappell: The question is objected to as inquiring for matter that is not material to the issues in this accounting. The question is not, so far as this particular defendant is concerned, whether his sales have directly superseded the sales of the Dowagiac Company, but the question is whether or not the Dowagiac Company would have sold all of the grain drills that had been sold by all of the infringers had the Dowagiac Company not been interfered with by said infringers, and it is insisted that the particular defendant or defendants in this case should be held responsible for the extent of their interference,

A. I could not state definitely as to what extent their sales would have been increased, but I do not think it could have been increased a great deal for the reason that they could not, I do not believe, turn out any more drills than they did, with the capacity that they had at the factory.

R-D. Q. 367. I will ask you for your opinion as to whether or not the sales of shoe drills with coiled spring pressure devices would not have been increased if no shoe drills whatever with rod spring pressure devices had been placed on the market in the Northwest except those manufactured by the Dowagiac Manufacturing Company.

By Mr. Chappell: Objected to as calling for a mere opinion and conclusion of the witness as to matters on which he is not competent to testify.

A. I think the sales on the coiled spring pressure drills would have increased had not the Dowagiac Manufacturing Company had their drills for sale in that territory.

R-D. Q. 368. My question assumes that the Dowagiac shoe drills would have been on the market, with their rod spring pressure devices, but that no other shoe drills with rod spring pressure devices would have been on the market in the Northwest. With that state

of facts, what do you say as to whether or not the sale of shoe drills with coiled spring pressure devices would have been increased?

A. I don't understand that question.

R-D. Q. 369. There were large sales of shoe drills with coiled spring pressure devices in the Northwest, as I understand you, notwithstanding they had to compete with shoe drills of various makes with rod spring pressure devices; is that correct?

A. Yes, sir.

R-D. Q. 370. Now, suppose that there had been a less number of shoe drills with rod spring pressure devices, that these coiled spring pressure shoe drills had to compete with, do you think the sales would have increased in that case?

By Mr. Chappell: Objected to for the reasons last above stated.

A. I do not, materially, but I don't know whether I understand the question yet or not. I wish to withdraw that; I don't understand that question fully, I have got to have a further explanation.

R-D. Q. 371. If no shoe drills with rod spring pressure devices had been sold in the Northwest, what kind of shoe drills, if any, would have taken their place?

By Mr. Chappell: Objected to for the reasons last above stated.

A. The coiled spring pressure.

R-D. Q. 372. Then, if a less number of shoe drills with rod spring pressure devices had been sold, what effect to you think that would have had on the sale of the shoe drills with coil spring pressure devices?

By Mr. Chappell: Objected to for the same reasons, and as a question that is not material.

A. They would have had an increased sale.

R-D. Q. 373. Then, if all of the rod spring pressure shoe drills had been eliminated from the Northwest market except those put on the market by the Dowagiac Manufacturing Company, what effect do you think it would have had on the sale of coiled spring shoe drills?

A. They would have had an increased trade.

Re-Cross Examination by Mr. Chappell.

R-X Q. 374. I suppose your answers presuppose in each case that the Dowagiac Manufacturing Company's plant had supplied all the drills that it was capable of supplying; is that true?

By Mr. Banning: I have assumed that in my question.

A. It is.

Signature of witness in presence of notary and counsel is waived.

Certificate of notary waived.

Deposition adopted from the case of *Dowagiac Manufacturing Company* v. *Ernest Smith and Leopold Zimmer,* pending in the United States Circuit Court for the District of Minnesota, Fourth Division.

Deposition of L. W. Zimmer, taken on the part of the defense and accounting in the above entitled action, October 5th, 1905.

L. W. Zimmer has previously been sworn.

J. S. Starr appears for the defense, and Fred L. Chappell for complainant.

Q. 1. You may state what your name is, Mr. Zimmer.

A. L. W. Zimmer.

Q. 2. Are you the same L. W. Zimmer that heretofore testified in this case on the hearing before the master?

A. I am.

Q. 3. And are one of the partners of Smith & Zimmer, are you not?

A. Yes, sir.

Q. 4. You may state, Mr. Zimmer, how long you have been acquainted, if at all, with the sale of drills in what is known as the Northwest Territory, comprising the State of Minnesota, Ortonville, S. D., and territory tributary thereto.

A. About sixteen years.

Q. 5. You may state for how long a period of time you handled the Peoria drills.

A. About three years.

Q. 6. Are you acquainted with those elements which you deem essential, and which are deemed essential, to a successfully operated shoe drill for this territory?

A. Yes, for this territory.

Q. 7. You may state and enumerate the various features of the drill which in your judgment are essential and necessary to the successful operation?

A. Aside from the general construction, including workmanship and material, it is very essential that the drill have a shoe peculiarly adapted to this territory, and said shoe hung at the right angle; a good feed, a spring which will allow a vertical range of about twelve inches, a wide-tired wheel of good height, a good hitch, the chain pulley type being preferred here. I think that is about all the main features.

Q. 8. You may state, if during the time you handled and operated the Peoria shoe drill, whether or not you had any difficulty with its operation or with its successful operation for the want of any feature of the drill of any kind.

A. Yes, we had some trouble in having the drill trussed properly so that it would hold the hopper. We also had trouble with the shoe, it not being hung right. It was hung in such a way as to gather trash, and was quite unsatisfactory in that particular to the trade and use.

Q. 9. You may state how that shoe was equipped so far as the spring, that is, state what kind of a spring those shoes are equipped with; I mean, the ones complained of.

A. Some of them were equipped with flat single spring, and others were equipped with a long, flat double spring.

Q. 10. From your experience in the handling of drills in the territory above mentioned, do you consider it a most essential feature of the drill that they have a properly equipped and constructed shoe?

A. That is very essential.

Q. 11. Suppose the drill was equipped with the very best possible spring, either coil or parallel spring, and it had a shoe that was defectively constructed and improperly hung, what effect would that have upon the successful operation of the spring?

A. It would be disastrous.

Q. 12. Can you state if it was not a fact that you required Selby Starr & Co. to change the construction of their drill and furnish shoes properly constructed and hung before you could successfully

introduce them to the trade, even although they were hung and provided with a long, flat parallel spring?

A. We did.

Q. 13. You stated that you have been handling and operating drills in this territory and acquainted with the various kinds of drills that are sold here; you may state if you consider yourself as competent to judge of the requisite of a properly constructed shoe drill?

A. I certainly do consider myself competent to judge, so far as this territory is concerned.

Q. 14. What year do you say that you ceased to handle the Peoria drills?

A. I think it was in the year 1901, being the last year that we did handle them.

Q. 15. I will ask you if since that time you have handled any other make of shoe drills in the territory that you have above designated?

A. We have.

Q. 16. Please state how those shoes are constructed with reference to the spring that they used.

A. The shoes were hung according to our ideas of the best construction, and the spring was a coil pattern.

Q. 17. Whose make of drills were they?

A. Wayne Work, Richmond, Ind.

Q. 18. You may state—or what kind of satisfaction did those drills give to the trade in the territory in which you sold them?

A. So far as the shoe and springs were concerned, they were satisfactory.

Q. 19. In your previous examination you gave a list of the drills that were active competitors for the trade in the territory which you have before designated. You may state if those drills continued to be active competitors with you, and with each other, during all the time that you handled the Peoria drill.

A. The majority of them were active competitors.

Q. 20. Please designate those on page 280 of defendants' original record that were active competitors with you during all that time.

A. Van Brunt, Dowagiac, Monitor, Richmond Champion, McSherry, Hoosier, Fountain City, Kentucky, Indiana, principal ones.

Q. 21. About the others, were they selling drills in the territory that you have named?

A. Yes, more or less.

Q. 22. From your experience of the trade, would it have been possible for any one drill company to have sold all drills which these various parties had sold during that time?

MR. CHAPPELL: Objected to as not material.

A. It was absolutely impossible.

Cross-Examination by Mr. Chappell.

X-Q. 23. What are the requirements about this shoe and its manner of hanging?

A. It is very essential to have the shoe with the closed heel cut off at the rear end vertically, and it must be hung so that it runs very much on the heel, very little of the shoe being required to go into the ground. The drill frame in front holding the shoe must be fairly high.

X-Q. 24. What is necessary about the framework and arrangement of a drill to enable a shoe?

A. It is necessary to have the center of good height.

X-Q. 25. Did you ever see such shoes in what is known as the press drill?

A. No, sir.

X-Q. 26. Why is it that this has not been accomplished in a press drill, if you know?

A. The press drill is a drill of entirely different construction, and while it accomplishes, perhaps, the same result in placing the grain in the ground at certain depths, it does it in an altogether different way, and the press drill is not very popular in the territory or has it been in comparison with the other style of

drill, very popular during the past dozen years. I want to modify this a little. There was one press drill manufactured that accomplishes practically the same purpose and had the shoe hung at about the same angle as the other drills under discussion, named the Peerless, and it was found to be, so far as the shoe was concerned, better adapted to the needs of this territory than the construction as usually used.

X-Q. 27. The Peerless drill was not very much sold, was it?

A. No, sir.

X-Q. 28. What was the matter with it, so far as you know?

A. It was constructed with carrying wheels at the side, which would not enable the farmer to turn within a short radius.

X-Q. 29. Then, so far as the proper angle of the shoe was concerned, no drills have been constructed without carrying wheels at the side, have they?

A. With the exception of the press drill referred to, no.

X-Q. 30. But the press drill referred to was the Peerless, which has carrying wheels at the side, has it not?

A. Yes, sir.

X-Q. 31. Then there is no exception.

A. The Peerless press drill is not made now. It was made only a short time with carrying wheels.

X-Q. 32. Then, so far as the carrying wheels have been made use of with shoes, they have been approved of, have they not?

A. Yes, sir, according to the best ideas on the subject in this territory.

X-Q. 33. Of course you only speak of what you know, and I suppose that is confined to this territory, is it not?

A. Yes, sir.

X-Q. 34. What is there about the shape of the shoe that is specially required?

A. I mentioned that in the previous answer, *i. e.*, that the shoe must have a closed heel and cut off vertically. The best construction also is a short shoe.

X-Q. 35. Should the edge of the shoe be straight or curved, or is it material?

A. That is a question I cannot answer, for I do not know that I have ever seen a straight-edge shoe. I think they all curve in some degree.

X-Q. 36. Is the degree of curvature at all material to the operation of the shoe?

A. It is to a certain extent.

X-Q. 37. Anybody have any exclusive right to the shoe with a curved edge that you know of?

A. No, sir.

X-Q. 38. What is a pulley hitch?

A. A pulley hitch is a set of eveners, through which chains are attached running around the pulleys, attached to the frame of the drill.

X-Q. 39. What machinery, if any, besides drills, is the pulley hitch used on that you know of?

A. It is used on harrows and cultivators.

X-Q. 40. Is there anything about a pulley hitch that makes it specially adaptable to a grain drill and not adapted to other machines and vehicles that it may be desirable to attach horses to?

A. It has been found that the pulley hitch is more desirable on the grain drill than others.

X-Q. 41. It is also more desirable in other places, is it not?

A. In some other machines, yes.

X-Q. 42. What changes did you require to be made in the shoes of the Peoria drills, those you were handling?

A. It was required specially that it should be hung at a different angle, so that they would run more on the heel.

X-Q. 43. You have mentioned a single flat spring as used on certain Peoria drills. Can you produce an illustration of that, so that we can see the difference?

A. I do not believe we have an illustration of it.

X-Q. 44. Will you please describe it, or have you one of the springs themselves?

A. We have none of the springs ourselves, and it would probably be impossible to get one at the present time. It was a spring about eight inches long, with a double bend in it, shaped somewhat like the letter S.

X-Q. 45. In what manner was it attached to impart pressure to the shoes?

A. That I cannot answer at the present time.

X-Q. 46. Is there any way of distinguishing these drills from the others in your books of account?

A. I think not.

X-Q. 47. Was there any other kind of spring pressure than those you have used in Peoria drills when you were handling them?

A. No, sir, except the double long flat spring.

X-Q. 48. Do you think you could make a sketch of how this single flat spring was used?

A. I might make a sketch of the spring, but not as to how it was attached.

X-Q. 49. I will ask defendant's counsel if he can produce one?

By Mr. Starr: No, sir; I have hunted all over for one of those springs. A man came and took the scrap; it was there years ago and we have not found one of those about.

X-Q. 50. What instance do you know of in which these shoes gathered trash because they were not properly placed; any specific instance that you remember of?

A. Yes, there was one at Park River, N. D.

X-Q. 51. When did that occur?

A. I think in the year of 1900.

X-Q. 52. Did you have the position or relation of the shoe changed after that?

A. We did.

X-Q. 53. What was the extent of the change?

A. I think the shoe was shortened up a little and then hung at a different angle.

X-Q. 54. Work all right after that?

A. Yes, sir.

X-Q. 55. What do you know about the use of the coil spring; have you had any actual experience other than the Richmond Champion which you referred to?

A. I have seen others working in the field.

X-Q. 56. Any trouble with them that you noticed?

A. None whatever, so far as the springs were concerned.

X-Q. 57. What troubles were there other than that; what was causing trouble?

A. I do not remember a specific instance of seeing any grain drills excepting the Richmond Champion that were constructed with the coil springs that gave trouble. I do remember distinctly of seeing some of the coil springs that were giving most perfect satisfaction.

X-Q. 58. Under what conditions were those being operated?

A. Under the usual conditions found in the Northwest in the early spring.

X-Q. 59. What makes were these that you saw, and what was the locality, specifically?

A. I have seen the VanBrunt drills work at, I think, Grafton, N. D., and Ortonville, Minn.

X-Q. 60. Were these on tests of field drills, or in work of actual seeding operations of the farmers?

A. In the regular use put to them by a farmer.

X-Q. 61. On what farms did you see them; give the name of the owners?

A. That I cannot recall.

X-Q. 62. Can you recall any specific instance where you saw them working satisfactorily; if so, give time and the conditions of the soil worked in?

A. I cannot give any more definite answer than I have given, except as to the conditions of the soil. I have seen them work in very moist ground.

A. Q. 63. It is necessary to use the tilting lever under such cir-

X-Q. ces, is it not?

springs thid not see the tilting lever used.

X-Q. 64. You do not know whether it was used or not?

A. I am quite sure it was not used, because I would have noticed it. I have never thought the tilting lever of any particular value.

X-Q. 65. You never sold a coil spring construction of that type, did you, of the Van Brunt?

A. No, sir.

X-Q. 66. Considering the Richmond Champion made by the Wayne Works, will you please produce illustrations of that shoe grain drills as you have sold it, indicating when and where you have sold it; by which I mean only in a general way, not caring to get specific names of users?

A. I herewith produce illustrations of it. I have sold this drill during the last three years in Minnesota and North and South Dakota.

X-Q. 67. Will you refer to the actual illustration of the shoe and spring pressure device as has been used by you during the last two seasons?

A. It is found illustrated on page 13 of the Wayne Works catalogue of 1903.

X-Q. 68. It is now offered in evidence with the Respondent's and Complainant's Exhibit, and marked "Wayne Works' Catalogue Produced by Zimmer."

X-Q. 69. Is that the construction of the shoe and spring?

A. Sold during the past season, yes.

X-Q. 70. That is the season beginning with the year of 1905, you mean, I suppose?

A. Yes, sir.

X-Q. 71. Can you produce one of the shoes and spring pressure device as here illustrated, so that it might definitely appear what the construction is?

A. I think I can.

X-Q. 72. Will you please do so, leaving it here with the master, with the label "Richmond Champion Grain Drill Produced by Mr. Zimmer," and that the master annex his initials?

A. Yes, I will, with the consent of the Wayne Works.

X-Q. 73. About how many of those have been sold?

A. I do not know.

X-Q. 74. I suppose that you have one of these drills in stock at your place of business, and would be willing that I should inspect it there, then, if you do not produce the section?

A. No, I have no objection to your inspecting it.

X-Q. 75. You have one in stock, so that I can see it?

A. I think we have.

X-Q. 76. Referring to the list of grain drills on the market, which you referred to in defendant's original record, page 280, which of those are coil spring structures?

A. To my knowledge at present, the Van Brunt, Monitor, Superior, Richmond Champion, Farmers' Favorite, Hoosier, Fountain City, Peoria, Hayworth, and, I think, three or four of the others of minor importance.

X-Q. 77. The Monitor shoe drill was substantially discontinued after the first year or so, was it not?

A. No, indeed.

X-Q. 78. Was it not later changed almost entirely to double disk?

A. No, sir, they manufactured and marketed a shoe drill with coil spring for a number of years. It has been discontinued.

X-Q. 79. About when was it discontinued?

A. To this day, that I know of; they still manufacture some shoe drills.

X-Q. 80. What drills do they have at the plant?

A. I have seen the plant a number of times.

X-Q. 81. You have been through it to see what they are building?

A. I have seen part of it.

X-Q. 82. The part that they are making the shoe?

A. From hearsay, I know that they have been making shoe drills.

X-Q. 83. Never saw them making the shoe drill?

A. I have seen some in the factory.

X-Q. 84. When?

A. Within three years.

X-Q. 85. How many do you think you saw?

A. It would be impossible to say.

X-Q. 86. Think you saw five?

A. I could not approximate the number.

X-Q. 87. A very small number, was it not?

A. I am not prepared to say at the present time. I know that they enjoyed a very large trade on their shoe drills.

X-Q. 88. How do you know?

A. Because I traveled in this territory a number of years, and often came in competition with other drills.

X-Q. 89. Are you aware that those who have been agents in the Northwest have testified that the sales dwindled very rapidly in the year of 1891 and 1892, and have not been very much since?

MR. STARR: I object to that question, without there being presented to the witness what somebody has testified to, is not proper cross-examination.

X-Q. 90. If agents who have handled the Monitor should make such statements would you be very positive that they were mistaken?

A. No, sir, the shoe drill is more or less a thing of the past in this territory.

X-Q. 91. What you know about it is from observation and what you have seen in the farmers' hands, or in the dealers' hands?

A. Both.

X-Q. 92. To what extent in the farmers' hands?

A. I do not remember that I have seen very many of the Monitor drills at work in the fields, but the few that I did see, I think, seemed entirely satisfactory.

X-Q. 93. Did you give them very close inspection?

A. Yes, sir.

X-Q. 94. What places and on what occasions; who was present?

A. One place particularly that I think of now, was at Arlington, S. D., where the agent for the Monitor drill, Mr. A. H. Hewett, was present.

X-Q. 95. What kind of soil was it working on there?

A. I do not remember just the condition of the soil there. It is supposed to be, generally speaking, a good soil, capable of producing good crops.

X-Q. 96. Was it gumbo, or sandy loam, or clay soil, or what?

A. There is more of a sandy loam soil.

X-Q. 97. Was there stubble and trash in the ground, or was it well cultivated and well plowed?

A. I do not remember as to that.

X-Q. 98. Was the ground rough or smooth?

A. I do not remember as to that.

X-Q. 99. Where did you ever see a Monitor drill running in damp, trashy ground and giving satisfaction?

A. I do not remember that I have seen it work in damp, trashy ground.

X-Q. 100. Did all the drills that you have enumerated have a shoe that had continued in the market to the present time?

A. As I stated before, there is but a small trade in shoe drills at the present time. The demand is confined almost exclusively to the single and double disk drills. The single disk being, perhaps, more popular than the double. I do not know that I can answer your question definitely and fully, except as to the Van Brunt, Richmond Champion and Tiger, Hoosier, Fountain City, Peoria. I know that during the past season, that is, the one just closed, these drills have been sold, hung with shoes.

X-Q. 101. How do you know of these different drills having been sold, particularly the Tiger shoe drill?

A. I know they are sold out of this city to the Northwest trade.

X-Q. 102. The question is how you know that they are sold; what is your personal information on the subject?

A. By talking with the dealers here who have handled them, and by seeing some shipped out.

X-Q. 103. How many did you see shipped out?

A. I have seen some Richmond Champions.

X-Q. 104. I referred to the Tiger. How many Tiger shoe drills have been shipped out?

A. I have not seen any of the Tiger shoe drills shipped out.

X-Q. 105. Which have you seen shipped out, and which do you know about personally, disregarding what somebody may have told you of?

A. The Richmond Champion.

X-Q. 106. You do not know of any other places in the territory, personally, where the others have been delivered, do you?

A. No, sir.

X-Q. 107. What year was it that A. H. Hewett was agent?

A. He handled them for a number of years.

X-Q. 108. What time do you refer to as having seen the test?

A. I think it was in 1894.

X-Q. 109. And his address was what?

A. Arlington, S. D.

Re-Direct Examination by Mr. Starr.

R-D. Q. 110. Mr. Chappell has asked you when it was that the disk drill first came in competition with the shoe drill.

A. I think it was about six years ago.

R-D. Q. 111. You may state to what extent the disk drill from that time to the present time has been used in this territory, known as the Northwest territory.

A. Since first introduced, it has grown more popular every year, and has commanded each year a larger sale than the previous year, until to-day it controls the drill trade almost exclusively in this territory.

R-D. Q. 112. Is it necessary for those disk drills to have any kind of a spring pressure to make them work properly?

A. I presume it is. They are all provided with spring pressure. I have never seen one used without.

R-D. Q. 113. What kind of a spring pressure do they have; what kind of spring do they use?

A. Almost without any exception they have a coil spring pressure.

R-D. Q. 114. Do you know of any exception to that?

A. I rather think the Dowagiac is an exception. I believe they have a long rod spring. At least, I have seen some with them.

R-D. Q. 115. You may state whether or not it is a fact that so far as your observation extends, all of the successful disk drills are constructed with coil spring.

A. So far as I have heard and seen, yes.

R-D. Q. 116. Has there been any objection to the coil spring, so far as you know?

A. No, sir.

R-D. Q. 117. Do they work satisfactory to the trade?

By Mr. Chappell: Objected to because I think this whole line of the testimony is immaterial.

Note the objection, overruled by the Master, and exception granted.

A. Yes, sir.

Re-Cross Examination by Mr. Chappell.

R-X Q. 118. So far as you know, the disk drills are patented drills, are they not?

A. I presume some features of them are patented.

Mr. Starr: R-X Q. 119. You stated in your examination that the chain hitch was, in your judgment, an advantage to a shoe drill. How was the Peoria drill constructed in that respect?

A. It had a very good chain pulley hitch.

R-X Q. 120. How was the Dowagiac, if you know?

A. As I remember it, for a number of years, and I think a few years ago, the Dowagiac did not have a chain pulley hitch, but of late years, I think the Dowagiac has had a chain pulley hitch.

R-X Q. 121. Did they have this chain pulley hitch at the time that you were selling the Peoria drill?

A. No, sir.

Examination of Mr. Zimmer, October 6th, who is desirous to correct certain portions of his testimony given yesterday.

J. S. Starr appears for the defense, and Fred L. Chappell for complainant.

R-D. Q. 122. You may state, Mr. Zimmer, if in your examination yesterday, in reference to the coil spring manufactured by the Wayne Works of Richmond Champion Company, which you handled and sold, and the style of which was offered in evidence in the catalogue of said company exhibit, the spring as used on said drills; if so, please state the correction you desire to make.

A. The spring as shown in the catalogue introduced in the evidence of yesterday, as shown in the catalogue produced, was used only on drills manufactured for us in 1903. Since that time, that is, during the years of 1904 and 1905, Wayne Works manufactured shoe drills for us with coil spring attached to the rear of the seed tube or boot and applied by levers at the rear of the hopper, instead of in front, as shown in the illustration.

R-D. Q. 123. You may state, Mr. Zimmer, what effect, if any, there is in the operation of the drill by placing the spring in the position that you have just described.

A. The only effect produced was making the drill so that it would be interchangeable with the disks. As to the working of the drill there was no change. I have found that the new construction answered fully as well as the old construction, and has proven entirely satisfactory.

R-D. Q. 124. Have you a cut of this last illustration that you have described, or can you get one and file it with your testimony?

A. I am afraid I cannot furnish such a cut. We have none in our possession, and it is probable that we would have been furnished a cut if it had been gotten out by the Wayne Works.

R-D. Q. 125. Can you furnish a section of the drill shown?

A. We have no such section in our stock. I presume it could be gotten from the Wayne Works of Richmond, Ind. I will request them to send us one.

R-D. Q. 126. And if you can find it, will attach it to your deposition?

A. I will.

Re-Cross Examination by Mr. Chappell.

R-X Q. 127. You will kindly mark this section of Wayne Works drill produced by Mr. Zimmer, will you?

A. I will.

R-X Q. 128. Please state about how many of each of these structures you have sold, so far as you can remember. I understand you sold the structure that you referred to yesterday for the year of 1903 only, and the structure which you have described to-day for 1904 and 1905?

A. We sold a limited number of the 1903 construction in that year, and possibly some since. We also sold a limited number of 1904 construction, that is, the new style, as described in to-day's testimony.

R-X Q. 129. Just indicate roughly about how many it was. Was it fifty or one hunded, or less than either of these figures?

A. It was probably less than fifty.

R-X Q. 130. All told?

A. All told.

L. W. ZIMMER.

EXHIBITS

NOT

SUITABLE

FOR

MICRO -

FILMING

Vol. II.

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1910.

No. 218. 226

OWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

MINNESOTA MOLINE PLOW COMPANY ET AL.

No. 219. 227

OWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

ERNEST F. SMITH AND LUPPO

MINNESOTA STATE LIBRARY

ON WRITS OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE EIGHTH CIRCUIT.

PETITIONS FOR CERTIORARI FILED JANUARY 27, 1911.—WRITS OF CERTIORARI AND RETURNS FILED APRIL 12, 1911.

(22,496 and 22,497.)

(22,496 and 22,497.)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1911.

No. 494.

DOWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

MINNESOTA MOLINE PLOW COMPANY ET AL.

No. 495.

DOWAGIAC MANUFACTURING COMPANY, PETITIONER,

vs.

ERNEST F. SMITH AND LUPPO W. ZIMMER.

ON WRITS OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE EIGHTH CIRCUIT.

VOLUME II.

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United States Circuit Court

DISTRICT OF MINNESOTA, FOURTH DIVISION

DOWAGIAC MANUFACTURING COMPANY,
Complainant.

vs.

In Equity,
Geo. F. Hitchcock,
Master.

MINNESOTA MOLINE PLOW COMPANY,
and T. H. MARTIN,
Defendants.

SAME COURT

DOWAGIAC MANUFACTURING COMPANY,
Complainant,

vs.

In Equity,
Sampson R. Child,
Master.

ERNEST F. SMITH and LUPPO W. ZIMMER,
Defendants.

Complainant's Testimony in Rebuttal In the Matter of Accounting.

FRED L. CHAPPEL,
Solicitor for Complainant.

Business address:
37-42 Chase Block,
Kalamazoo, Mich.

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UNITED STATES CIRCUIT COURT.

DISRICT OF MINNESOTA.

FOURTH DIVISION.

Dowagiac Manufacturing Co.,
Complainants.
vs. In Equity 404.
vs.
Minnesota Moline Plow Co. et al.,
Defendants.

UNITED STATES CIRCUIT COURT.

WESTERN DISTRICT OF KENTUCKY.

Dowagiac Manufacturing Co.,
Complainant.
vs. In Equity.
vs.
Brennan & Co., et al.,
Defendants.

Testimony taken in rebuttal in the matter of the accounting in the above entitled causes, at Minneapolis, Minnesota, on the 3rd and 5th days of October, 1905, and at Fargo, North Dakota, October 4th, 1905, before A. G. Ronald, Special Master in Chancery in the case of the Dowagiac Manufacturing Co. vs. Brennan & Co. et al, and Geo. F. Hitchcock, Jr., Special Master in Chancery in the case of the Dowagiac Manufacturing Co. vs. The Minnesota Moline Plow Co. et al.

Present on behalf of the complainant, the Dowagiac Manufacturing Co., Mr. Fred L. Chappell; on behalf of the defendants, the Minnesota Moline Plow Co., Mr. Thomas A. Banning; on behalf of the defendants, Brennan & Co. et al, Mr. Border Bowman.

Thereupon the following proceedings were had:

CHARLES H. GANGELHOFF, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation?

A. Charles H. Gangelhoff; age 48; live at Long Lake, Minnesota; at present engaged in the manufacture of matresses and springs.

Q. 2. Please state your knowledge, acquaintance and relations to the implement business in the northwest?

A. I began in the implement business 27 years ago in the cities of St. Paul and Minneapolis as a traveling man, and in later years was a manufacturers' agent and jobber.

Q. 3. What concerns did you represent particularly so far as grain drills are concerned?

A. Before I started in the implement business on my personal account I represented the Buckeye and Triumph drills; sold them for jobbers on the road.

Mr. Bowman: What years were those?

A. My recollection is that was 1881; between 1881 and 1886.

Q. 4. And subsequent to that; follow it up if you will?

Mr. Bowman: I object to it as immaterial.

The objection was overruled and an exception noted.

A. In 1886 I began business on my own account, and sold the seeding machines manufactured by the J. S. Rowell Manufacturing Co. of Beaver Dam, Wisconsin, and continued handling their line up to August 1st, 1903.

Q. 5. What is your relation to the J. S. Rowell Company, and state whether they manufactured a shoe drill, and what name was given to the shoe drill?

A. I am a director in the J. S. Rowell Manufacturing Co. They manufacture a shoe drill which is called the Tiger.

Q. 6. Over what period did you handle that shoe drill?

A. I can't state the exact year without referring to my books, but I handled it from the time they first began building them until two years ago.

Q. 7. Please indicate the spring devices on the Tiger shoe drill, and what changes were made therein from time to time by the manufacturers?

A. They at first built the machine with a coil spring that rested on the rear of the shoe. They next transferred this spring from the rear to the front of the hopper. They next built a machine with a flat spring, with forks extending to the rear of the shoe, and they next discontinued the forks, and had a short flat spring. They next discarded this flat spring and applied another coil spring practically in the same manner that they used it on a spring trip seeder.

Mr. Bowman: This is objected to specially as immaterial. Objection overruled and an exception noted.

Q. 8. The flat spring structure to which you refer was discontinued after receiving a notice from the Dowagiac Manufacturing Co. that it was an infringement of the Hoyt patent, was it not?

A. I can not state about that.

Q. 9. You received such a notice personally, did you not? Or your Company, known as—what was the name of your company?

A. C. H. Gangelhoff.

Q. 10. C. H. Gangelhoff & Co.?

A. No company. C. H. Gangelhoff. I don't remember whether I received a notice from the Dowagiac Company or not.

Q. 11. You gave testimony in a case pending in the Circuit Court for Winnebago County, Wisconsin, did you not, between certain parties?

A. I did.

Q. 12. Can you name the parties?

A. It was in a law suit between the J. S. Rowell Manufacturing Co. and the Ira Rowell estate.

Q. 13. Do you remember of making a statement in that litigation relative to the Dowagiac shoe drills?

A. I do.

Q. 14. (Showing witness paper.) I call your attention to what purports to be a copy of that statement given in a previous deposition by you, and ask you if that is a correct statement of what you said on that occasion?

A. It is.

Q. 15. Is that a correct statement of the situation?

A. It is.

Q. 16. You gave that testimony at that time without any prejudice, so far as any parties to this litigation are concerned, I suppose?

A. I did.

Mr. Chappell: The statement of the witness is as follows:

> "I think in 1897, I mean 1887, there is a concern called the Dowagiac Manufacturing Co., in Michigan, they introduced the shoe drill. They introduced it first, I think, in North Dakota, and it gave such good results and farmers found it was so far superior to seeders, thta the trade changed almost wholly from plain seeds, to these shoe drills, and in localities where thy had these shoe drills, why we simply couldn't give away a seeder, because the farmers tried to trade their seeders in towards these shoe drills. In localities of this kind, where we had these old seeders, we would ship them where the shoe drill hadn't been introduced."

CROSS EXAMINATION.

By Mr. Banning—

XQ. 1. The testimony which has just been quoted from that deposition in the Winnebago County suit, had reference to what territory in which you say the Dowagiac Company introduced shoe drills?

A. It refers to North Dakota.

XQ. 2. At the time that these shoes were introduced as you say by the Dowagiac Company, what kind of pressure device was used to hold the shoes to the ground?

A. There was a weight used.

XQ. 3. Those shoe drills with weights, I infer from your testimony, gave good satisfaction and became popular?

A. They did.

XQ. 4. You have spoken of handling the Buckeye and the Triumph; what kind of a pressure device was used on those drills to hold the shoes to the ground?

A. At that time there were no shoe drills in existence. Seeding machines I stated.

XQ. 5. I am speaking of the machines known as the Buckeye and the Triumph. What were they?

A. They were plain seeders and hoe drills.

XQ. 6. Not shoe drills?

A. Not shoe drills.

XQ. 7. You have spoken of several different modifications of the spring device that was used on the Tiger drill; what kind of spring pressure device of these modifications

gave the best satisfaction, in your judgment?

A. The last one that we constructed. The spiral spring which we converted from the seeder to the drill.

XQ. 8. That is, which you transferred from the seeder to the drill, if I understand you?

A. Yes. We had this spring trip on our seeder for several years, and we had worked over that—we tried from the beginning, after we found it was a success on the seeder, to apply it to the shoe drill.

XQ. 9. And you found that it could be transferred from the seeder to the shoe drill and give satisfaction?

A. Yes, sir.

XQ. 10. Did this coil spring pressure device give as good satisfaction, or better satisfaction in your judgment, than the flat spring pressure device about which you have been asked?

A. It did.

XQ. 11. Which do you mean, that it gave as good satisfaction or better?

A. It gave the best satisfaction of any spring pressure device that we used.

XQ. 12. During your experience in dealing in shoe drills, and particularly during the years say from 1895 to 1902 or 1903, did you know of other shoe drills that had spring pressure devices of different kinds in use?

A. I did.

XQ. 13. Did you know of any that had coil spring pressure devices?

A. I did.

XQ. 14. What kinds?

A. The VanBrunt and the Monitor.

XQ. 15. I will ask you to state whether or not the coil spring pressure devices on these other shoe drills were popular among the farmers, or gave satisfaction, or what the fact may be?

A. I think they were. At any rate they sold a large number of machines, and continued to hold their agencies.

Mr. Chappel': This last examination is objected as not proper cross examination.

The objection was overruled and an exception noted.

XQ. 16. You have referred to the changes in the pressure device on the Tiger shoe drill; during this same time while you were making changes in the pressure device, did

you make changes in other parts of the construction of the drill?

A. We did.

XQ. 17. Can you name some of the parts which you changed or modified? If so, please tell us about them?

Mr. Chappell: This is objected to as not proper cross examination.

The objection was overruled and an exception noted.

A. We changed the gear, and made various changes in the shape of the shoe. We made changes in the frame, and also in the feed cups.

By Mr. Ronald—

Q. If I understood you correctly you manufactured a drill or handled a drill with a coil spring pressure device for awhile, and then you changed to a flat spring pressure device, did I understand you correctly?

A. Yes, sir.

Q. Now, why did you make the change from the coil spring to the flat spring?

A. Why, it is pretty hard for me to answer that question, because the company were continually changing all parts of the machine. Experimenting.

Q. Was there any demand from your customers for a different pressure device, or for a flat spring pressure device?

A. I think not. Nothing to speak of.

Q. Now, you have stated that the last device you tried was the most satisfactory; now what device was that; that is what I want to get at?

A. It is a coil spring.

Q. You tried the flat spring device, and then afterwards changed to a coil spring?

A. Yes, sir.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 17. The structures of the Tiger drill spring pressure, being the first coil spring, were patented structures, were they not?

A. I thnik not. I think the only patented structure we have is the 'ast one; the one that we transferred from the

seeder, the spring trip seeder, to the shoe drill.

RDQ. 18. There are certain patents that have been offered in evidence, copies of which I do not have here, that were issued to J. S. Rowell, or some other man by the name of Rowell?

A. Sam Rowell.

RDQ. 19. I may not have the initials right. Would any of those patents that were assigned be the Tiger drill patents?

A. Yes, sir.

RDQ. 20. The last structure which you have described consists of a lever with a coil spring connected to the lever, so that the lever itself has quite a wide play in proportion to the play of the coil spring, does it not?

Mr. Bowman: I do not wish to be bound by descriptions given by counsel for complainant. If the patent shows a structure, that shou'd be the best evidence.

Mr. Chappell: Counsel for complainant remarks that the patents have been offered in evidence, but that the copies of them do not seem to be here, as it was not expected to go into the subject of patents with the witness, as the patents, as I recollect, have only been offered in the Minnesota Moline case.

A. I don't know as to that.

RDQ. 21. Can you in a general way describe it so that we might identify it from the patent drawing. That is all I am after?

A. The spring is slipped on a rod—I can't describe it. I don't remember now whether that spring is on the top or on the bottom of the drag-bar. I think it is on the bottom. I would not want to state it is on the bottom, and then it may be on the top. At any rate it runs along the drag-bar. I should judge it was about a foot long. That is about all the description I can give you of it.

RDQ22. And the lever is connected to this rod through the spring, so that the play of the lever up and down in applying pressure acts upon the spring; is that right?

A. Well, the lever is attached to a pressure rod that puts tension onto the spring.

RDQ. 23. The flat spring pressure device is connected at its front end to the draw-bars, and applied its action like a lever by a downward pressure at the rear end, did it not?

A. It did.

RDQ. 24. I have made a very rude sketch here, and ask you if that in a general way outlines the principles of the last coil spring structure? (Showing paper to witness.)

A. It does.

Mr. Chappell: The sketch presented to the witness I request be marked for identification, "Sketch presented to Gangelhoff."

RDQ. 25. What were your business relations with these manufacturers of other drills than the Tiger, of the shoe drill type?

A. The Tiger is the only shoe drill I ever was identified with.

RDQ. 26. The other drills you mere'y know of from observation; is that right?

A. The VanBrunt, you mean, and th e other?

RDQ. 27. Yes.

A. Merely from observation and interviews with local agents coming to my establishment.

RDQ. 28. You have no definite knowledge as to the quantities of those that were sold, I suppose?

A. Nothing more than what the general agents used to inform me from time to time.

RDQ. 29. In what territory were the Tiger shoe drills principally sold; be definite as to the regions or parts of states?

A. Principally in North Dakota and Northern Minnesota, and in a small portion of South Dakota. In more recent years we sold some in southern Minnesota and a portion of Wisconsin.

RDQ. 30. About what was the average range of their sizes?

A. In Wisconsin they were small; small sized; 12 shoe; in the Dakotas and Northern Minnesota they ranged from 16 to 22 shoe; in Southeastern Minnesota the smaller sizes; in the western portion the large size.

RDQ. 31. What was the occasion of making the changes in the shoes to which you have referred?

A. To keep them from clogging and reduce the draft. That is about all.

RDQ. 32. You found difficulty with the shoes clogging, did you?

A. Found difficulty with the shoes clogging at the heel.

RE-CROSS EXAMINATION.

By Mr. Banning—

XQ. 18. Did the changes that you made in the shoes obviate the difficulty of the clogging, etc.?

A. It did.

XQ. 19. What means did you use to obviate these difficulties that you have mentioned?

A. Cutting off the heel and closing up the bottom.

XQ. 20. How did you mount the shoe to run; that is, to bear on what part?

A. On the heel.

(The signature of the witness in the presence of the counsel and Masters is waived.)

The further taking of testimony in these causes was here adjourned to be taken up at Fargo, North Dakota, on Wednesday, October 4th, 1905, at ten o'clock A. M.

Fargo, North Dakota, Wednesday, October 4, 1905.
10 o'clock a. m.

Met pursuant to adjournment, present as before.

THOMAS BLENKHORN, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows.

Q. 1. Please state your name, age, residence and occupation?

A. My name is Thomas Blenkhorn; occupation salesman; age 49; residence Minneapolis.

Q. 2. Salesman for what, Mr. Blenkhorn?

A. Farm implements.

Q. 3. How long have you had experience in farm implements as a salesman?

A. Farm implements and farm machinery, there is a distinction between them; shall I answer as to one or both?

Q. 4. Both?

A. 16 years.

Q. 5. When did that experience begin, and when did you first become acquainted with seeding machinery?

A. My experience commenced in 1889; with seeding

machinery in 1894.

Q. 6. With what concern were you employed in 1894 when you became familiar with seeding machinery?

A. The Minnesota Moline Plow Company at Minneapolis.

Q. 7. What machinery were they handling at that time of the seeding type?

A. A drill called the Princess, I think made by the National Drill Co.

Q. 8. What sort of a drill was this as you remember?

A. A shoe drill.

Q. 9. Do you remember the kind of spring?

A. I don't recollect now.

Q. 10. What was the next drill with which you became familiar?

Mr. Bowman: I would like to enter an objection to that as immaterial.

The objection was overruled and an exception noted.

A. The McSherry drill.

Q. 11. When was the McSherry drill taken up, as near as you remember, by the Minnesota Moline Plow Co.?

A. To the best of my recollection it was about 1896. That is the best of my recollection.

Q. 12. What was the leading shoe drill on the market at that time, so far as you remember?

A. So far as I came in contact with seeding machines in my territory, it was impressed upon me that the Dowagiac drill was the leading drill. It had the most sales, is the reason I should say it was the leading drill.

Q. 13. What seemed to be the feature that was made emphatic in the Dowagiac drill at that time, so far as you remember, in the market?

A. Well, I can hardly say as to what was the leading feature about the drill, but the drill simply sold above the other drills in quantity.

Q. 14. Do you know whether or not the spring pressure of the Dowagiac drill was made prominent?

A. There was some talk about the drill having a straight spring pressure.

Q. 15. Do you recollect making any recommendation or suggestions to the Minnesota Moline Plow Co. about the kind of drill that they should adopt?

Mr. Bowman: The same objection, and I would like my objection to stand for all similar questions the same as the one originally made.

The objection was overruled and an exception noted.

A. I can't recollect, but it seems it might have been probable that I said, "We want a drill that will sell like the Dowagiac."

Q. 16. What territory did you cover for the Minnesota Moline Plow Co. at that time?

A. North Dakota.

Q. 17. Do you remember whether or not you put in a recommendation as to the size of grain drill that should be manufactured for that territory?

A. Well, yes, I do, slightly, by saying it was necessary ot have 16, 18, 20 and 22's, as they were the sizes used generally.

Q. 18. You refer to the number of shoes or furrow openers?

A. Shoes only at that time.

CROSS EXAMINATION.

By Mr. Banning—

XQ. 1. How long did you continue to sell shoe drills for the Minnesota Moline Plow Company?

A. Let me see; I left them, I think it was in 1902. I of course sold drills from my first period of service, but taking effect mostly from 1896.

XQ. 2. Have you been selling shoe drills since 1902.

A. A few.

XQ. 3. What kind have you been selling?

A. The P. B. Mast, Ohio shoe and disc.

XQ. 4. What kind of spring pressure device for holding the shoes to the ground did they have?

A. On the disc dri'l a coil spring. On the shoe drill, I think I am correct in stating, a straight spring, but of the latter I am not positive, I sold so few.

XQ. 5. While you were se'ling the McSherry shoe drills what other shoe drills were in competition with you?

A. Well ,there was the Dowagiac, and of course naturally I mention that, because at the time to my recollection it was the leading drill, and there was the Tiger, there was the Monitor, and I think the Van Brunt and the Havana.

That is to the best of my recollection.

XQ. 6. Were the Kentucky shoe drills also in competition with you?

A. Not at that date.

XQ. 7. When did they come into the field, as you recollect?

A. That I don't recollect. Why I make the statement that I don't recollect that they did at that date, is because it was a new competitor to us later. That is why I say that in 1896 they were not on the market. They may have been, but not to my knowledge.

XQ. 8. What kind of shoe pressure did the VanBrunt and the Monitor and these others that you have mentioned as in competition with you, have?

A. I think the VanBrunt had a coil spring. As to the others I really don't remember, excepting the Kentucky later had a straight, flat spring.

XQ. 9. These other shoe drills like the Van Brunt, the Monitor, etc., were sold to a considerable extent in your territory?

A. I don't recollect much of their sales.

XQ. 10. Why did you cease your connection with the Minnesota Moline Plow Company?

A. Because I objected strenuously to the treatment I was receiving from their manager, who was managing their business at that time.

XQ. 11. Was that Mr. Martin?

A. No, sir, no. Mr. Martin was a gent'eman. Mr. Barber, if I have to mention that name. That is something, however, I don't care to go into the details of.

RE-DIRECT EXAMINATION.

By Mr. Chappell.—

RDQ. 19. Your principal knowledge of the Tiger, Monitor and Havana drills came from what you heard of them in the field, did it not?

A. Mostly, yes.

RE-CROSS EXAMINATION.

By Mr. Banning—

XQ. 12. Did you ever hear the agents of the Dowagiac making sales to farmers of Dowagiac drills?

A. Why, yes—do you mean have I seen the dealer selling Dowagiac drills?

XQ. 13. Yes, and did you hear what they said in recommending the drills to the farmers?

A. I can't just recall every expression that was used at the time. I have heard some.

(The signature of the witness in the presence of the counand the Master is waived.)

ERICK ERICKSON, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age residence and occupation?

A. Erick Erickson; residence, Cooperstown, North Dakota; 52 years old last June; occupation, dealing in farm machinery.

Q. 2. How long have you dealt in farm machinery and where?

A. I started in 1891 at Cooperstown; in the spring of 1891.

Q. 3. What state?

A. North Dakota.

Q. 4. Are you familiar with the Dowagiac shoe drill?

A. Well, I have sold them since I started in there.

Q. 5. You have handled and sold that drill, have you?

A. Yes, sir.

Q. 6. Please state what there was about that drill that induced you to handle it?

A. Well, I thought it was the best drill I could get.

Q. 7. What features, if any, were brought to your attention to induce you to buy it?

Mr. Bowman: I object to that as improper rebuttal.

The objection was overruled and an exception noted.

A. On account of the springs and shoes mostly, and also on the feed.

Q. 8. What feature of the shoe was urged on you as—

A. Well, I thought they had the best shaped shoe for

running easy and clearing itself in the ground.

Q. 9. Anything about the position of the shoe?

A. Yes, sir, in the way they slanted; stood; the running part of it.

Q. 10. And what, if anything, was urged regarding the spring?

A. Well, it had a long rod spring which looked to be better and I thought was better than a coil spring that the most of them used.

Q. 11. You personally have sold the Dowagiac drill to farmers?

A. Yes, sir.

Q. 12. What features, if any, did you bring to their attention in selling the drill, and what seemed to be of importance in inducing the farmer to buy the drill?

A. Well, the biggest part of it was in the springs and shoes.

Q. 13. In selling the drill what would you do in the way of manipulation in explaining it to the farmers?

A. Well, I had my drills set up on the floor, and would show them the shape of the shoes and the way the spring worked.

Q. 14. Have you had any experience in the field with the Dowagiac drill?

A. I have been out and looked at them once in a while.

Q. 15. Did you ever know a Dowagiac drill to clog?

A. No, sir.

Q. 16. About how many Dowagiac drills would you sell in the course of a year?

A. In shoe drills?

Q. 17. Yes, of the shoe drill type?

A. Well, I have sold as little as 10, and I have sold as much as 60 or 62 in one year.

Q. 18. About what would your averages sales be?

A. Well, about 25 or something like that.

Q. 19. Did you ever sell any other make of shoe drill than the Dowagiac?

A. Yes, sir.

Q. 20. Please indicate what makes and when?

A. I sold the Van Brunt & Wilkin in 1892

Q. 21. Any other make?

A. I sold a few Kentuckys in 1895 or 1896. I forget now just what year it was.

Q. 22. What induced you to handle the Van Brunt in 1892?

A. Well, we cou'd not get Dowagiacs enough, and we

thought we would get a few VanBrunts.

Q. 23. And what price did you pay for the VanBrunts compared to the price you paid for the Dowagiac?

Mr. Bowman: That is objected to as immaterial and improper rebuttal.

The objection was overruled and an exception noted.

A. If I remember right it was $2.50 less.

Q. 24. What price did you obtain from the farmer for that in comparison with the price obtained for the Dowagiac?

A. We sold them $5.00 less on the same sized drills.

Q. 25. What was it that induced you to take up the Kentucky drill?

A. Well, that drill, a good many people thought that the flat spring was better than the rod spring, and it was just as good a drill clear through, and I tried a few of them on that account.

CROSS EXAMINATION.

By Mr. Bowman—

XQ. 1. Please explain whether the requirements of a wheat drill were any different in 1897 from those in 1894, 5 or 6 in your territory?

A. No, I don't know as there was very much difference in the drills that I handled.

XQ. 2. The seeding was done in the same conditions of the soil, the time of year, etc., in 1897, as in 1894, 5 and 6?

A. They may have farmed it a little better later on; broke up their ground a little better.

XQ. 3. What I particularly wish to know is whether you remember whether there was any marked change or noticeable change in the requirements for a drill, or the conditions under which it was used, in 1897, from that in 1894, 1895, or 1896?

A. You mean in the shape of the shoes or the drill itself; the whole drill?

XQ. 4. I mean in the condition under which they used them? Whether the season was the same in 1897, as in 1894, and 5, and they were used under similar circumstances?

A. No, I don't remember anything different.

XQ. 5. And the dealer in your territory in 1897 wanted

substantially the same kind of drill as he had in 1894 and 5?

A. Yes.

XQ. 6. Is it not a fact that in the sale of drills there are some people who like some features, and some customers who kick about some features, and some customers who kick about something else, and variations of that kind.

A. Oh, as a rule there is some kick on some things on all machines.

XQ. 7. And some kick on some other features; they don't all agree on any particular feature?

A. Well, no, they can't all agree.

By Mr. Banning—

XQ. 8. You found that some farmers liked one feature and some liked another, did you not?

A. Oh, there was some difference in farmers.

XQ. 9. Did you ever sell any McSherry shoe drills?

A. No.

XQ. 10. Were any McSherry shoe drills sold in competition with the Dowagiac that you were selling?

A. Not that I remember.

XQ. 11. In talking to the farmer to make a sale of the Dowagiac drills, would you not call attention to the general construction of the drill, its appearance, its feed, and the various features that you thought were desirable in it?

A. Yes, sir.

XQ. 12. Did you ever sell any Van Brunt drills after this one year, 1892, I believe you said?

A. I don't remember whether I sold them in 1893. I am not quite sure about that.

XQ. 13. You say that there was a shortage in Dowagiac drills in 1892; how was it in other years?

A. I believe we got what we wanted in other years.

XQ. 14. Did you get all you wanted in 1897 and 1898?

A. I think I did.

XQ. 15. What other shoe drills were sold in competition with the Dowagiac drills in your territory?

A. Well, there was the VanBrunt & Wilkins, the Kentucky, the Monitor, the Havana, and I believe the Sucker State. A drill of that make. I think there was some of them sold.

XQ. 16. Most of these other drills had coil spring pressure devices for the shoes, did they not?

A. Most of them had.

XQ. 17. Did you ever hear any farmers complain of these other drills

A. I have heard of some of them.

XQ. 18. What particular feature did they complain about?

A. Well, there was lots of them said they would not have a coil spring drill, one thing.

XQ. 19. Did you ever hear farmers say that they didn't like the rod spring pressure devices also?

A. No, I never heard them kick on that.

XQ. 20. Haven't you heard farmers say that they liked the rod spring pressure devices also?

A. Oh, I suppose there was some.

XQ. 21. They kept buying them right along during all these years, did they not?

A. Yes, they bought more or less of them every year.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

Q. Which of these various drills was the strongest competitor of the Dowagiac, that you have referred to?

A. Well, it is the VanBrunt & Wilkins, because they are about the only ones that was handled, besides me, in the first years.

Q. 27. When was the Kentucky introduced?

A. I ain't sure whether it was in 1895 or 1896. I don't remember just the year.

Q. 28. After that date what was the strongest competitor?

A. Well, it would be the VanBrunt and Wilkins. They have been the strongest firm in town there.

Q. 29. The VanBrunt & Wilkins was handled by the strongest concern?

A. Yes, sir.

Q. 30. Who handled the Kentucky besides yourself?

A. Hamre & Conde.

Q. 31. How extensively were the Kentucky drills sold there, if you know?

A. Well, there ain't very many sold.

Q. 32. Would you have any opinion as to what drill would have taken the place of the Kentuckys had the Kentucky not been sold?

Mr. Bowman: I object to that as asking for an opinion.

The Master: (Mr. Ronald). I hardly think that is competent.

By Mr. Ronald—

Q. Among the farmers you have met, and prospective customers, was there exhibited any marked preference, or universal demand for one form of spring pressure over another?

A. Yes, sir.

Q. What was this universal demand for? What character of a spring pressure?

A. They wanted the long rod springs.

Q. This Kentucky drill that you sold, how did that compare in price with the Dowagiac drill?

Mr. Bowman: I object to that as improper.

The Master (Mr. Ronald): I think what the Master has got to get at are the facts in this case, to get down and try and do something like exact justice, and I think it is an essential item that enters very materially into this matter. The question of price.

Mr. Bowman: Here is a place that this witness comes from, up in North Dakota, Coopertown; I don't think there has been anything on the question of price at all at that particular place, either by the plaintiff or defendant. I beg your pardon; in the cross examination of our witness the question was asked by Mr. Chappell as to the VanBrunt price and the Kentucky, but I don't understand, that being an examination of one of our witnesses on a matter of that kind, that this is proper.

The Master (Mr. Ronald): Well, I am going to overrule the objection and get at the facts.

Mr. Bowman: Note an exception.

A. Well, I don't remember just exactly, but I believe a trifle lower. I just sold a few of them, and I don't remember much about it.

Q. Do you remember you sold them to the farmers at a greater or less price than the Dowagiac?

A. I think they had them for $5 less.

By Mr. Banning—

XQ. 22. Did you understand what the word "universal" meant in the question just asked you?

A. Well, I think I do. I don't know as I can explain it.

XQ. 23. When you said that there was a universal demand for a rod spring pressure device, did you mean that everybody demanded the rod spring pressure device?

A. I meant the biggest part of them.

XQ. 24. The biggest part of them?

A. Yes, sir, the majority.

By Mr. Bowman—

XQ. 25. How do you explain the fact that Hamre & Conde sold during the period from 1897 to 1902, an average of 25 coil spring shoe drills, or an average of 21, and you say that you averaged about 25 per year? How do you reconcile that with the proposition that the biggest part of the farmers wanted the flat spring?

A. I don't know just how many Hamre & Conde sold of them.

XQ. 26. Do you actually know what price your competitors sold to their customers or farmers for?

A. No, sir.

XQ. 27. Now, isn't it a fact Mr. Erickson, that the popularity of a grain drill depends somewhat on the kind of agent that is employed to handle that drill, as to his push and energy in handling it?

A. Oh, it has quite a little to do.

(The signature of the witness in presence of the Masters and counsel was waived).

MICHAEL O'LOUGHLIN, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation?

A. My residence is Rolla, North Dakota; my name is Michael O'Laughlin; age 52; occupation, dealer in hardware and farm machinery.

Q. 2. How long have you been engaged in the farm machinery and hardware business?

A. Been there since 1891, in that town.

Q. 3. Been engaged in the business continually to the present I suppose?

A. Yes, sir.

Q. 4. When did you first become familiar with shoe drills?

A. Well, our first handling of shoe drills was in the spring of 1892.

Q. 5. What make did you handle then?

A. The Dowagiac.

Q. 6. Was that the drill with the parallel spring rod?

A. Yes, sir, the rod spring.

Q. 7. Did you ever handle any other make of shoe drills than the Dowagiac?

Mr. Bowman: I object to that as improper rebuttal. The objection was overruled and an exception noted.

A. Well, we didn't, not for a couple years after that.

Q. 8. Then what make?

A. Then we handled a few of the Kentucky.

Q. 9. What other shoe drills were handled at your town?

A. The shoe drills that were handled there were the McSherry.

Q. 10. Any others?

A. Well, no, not to speak of. I don't think there was anything else.

Q. 11. What was your strongest competitor there?

A. Well, that was particularly about all the competition that there was there then; at that time.

Q. 12. What year is that?

A. It was the first two years or three that we started there and handled those goods.

Mr. Bowman: That would be 1892 and 3?

A. Yes, somewhere in there.

Q. 13. How about later years?

A. Well, later years there was a few handled; the McSherry was handled, and then later on the Monitor was the competition.

Q. 14. What kind of Monitors, shoe or discs?

A. Well, some shoes I think, but mostly discs.

Q. 15. What feature or features of the Dowagiac drill induced you to purchase the same?

A. Well, it was the general make-up of the drill, and the rod spring, that first attracted our attention to the drill.

Q. 16. Did you sell these drills to the farmers?

A. Yes, sir.

Q. 17. What feature or features did you refer to in making the sales to the farmers; state what you would do in showing off the Dowagiac shoe drill to the farmers?

A. Well, we first had one of them—the first year we handled them, right inside, in the store, and we showed them the shoe and the spring and the action of it by having it on the floor and raising the drill from the floor by the weight of the spring, and all that kind of thing, and the make-up of it as compared to a coil spring drill. That is to say, show them the advantage of that over any coil spring drill.

Q. 18. How extensively was the Dowagiac shoe drill used in that territory?

A. Why, mostly altogether. We had nearly all the trade of that county at one time on those drills.

Q. 19. How did the price on the Dowagiac drills compare with the price of other drills that were offered to you?

A. Well, I think the price was more on the Dowagiac; that is, they cost more, but we could sell them, and I think we could buy any coil spring drill that I know of some cheaper than we could the Dowagiac.

Q. 20. State whether or not you ever knew of a Dowagiac drill clogging, or having any complaint about its clogging with trash.

A. No, sir, we had none, or never had any returned. We never lost the sale of a drill while we handled it.

Q. 21. About how many Dowagiac drills would you sell per annum, and about how many do you think you have sold all told of the shoe variety?

A. Well, one spring we sold as high as three cars, and we averaged a car every spring; never less than that, and more; sometimes have to ship local. We sold one spring that I can remember three cars. Three complete cars.

Q. 22. How many drills would that be?

A. Well, there would be about 25 drills in a car.

Q. What sizes of drills were sold principally?

A. Well, there in that country it was largely 17's and 22's. The first year it was 17's, and later on they increased in size; 22's generally.

Q. 24. Are you familiar with the Kentucky drill?

A. Yes, considerable.

Q. 25. Of the shoe type?

A. Well, we never sold very many of the shoes there.

Q. 26. You have handled the Kentucky shoe drill then yourself?

A. Well, a few. Just a few.

Q. 27. What induced you to handle that?

A. Well, there was a demand from the Towner County; we are in Roulette County, and there was a demand from Towner County, where the drill was pretty well known, further down the road, for that drill, and we had a few of them so as to fill that demand.

Q. 28. What features would you talk in selling the Kentucky drill of the shoe type to the farmer?

A. Well, we would generally call their attention to the fact that the spring was very much like the Dowagiac, and on the same principle, and that it would probably do about as good work.

Q. 29. Did you get more or less money for the Kentucky?

A. About the same.

Q. 30. Did you pay more or less money for the Kentucky than for the Dowagiac?

A. I think the Kentucky was somewhat higher than the Dowagiac,—well, there wasn't much difference.

CROSS EXAMINATION.

By Mr. Banning—

XQ. 1. As I understand you, you have said that at one time the Dowagiac drill was sold almost altogether in your county?

A. Yes, in that town.

XQ. 2. You mean the country about Rolla?

A. Yes, sir, in that vicinity it was.

XQ. 3. What year was that?

A. Well, sir, it was for the first two or three years there I think that we handled it. That would be 1892, 1893 and so on.

XQ. 4. When you were selling a Dowagiac drill would you call attention to the feed, and to the frame and to the general construction of the drill, and the shape of the shoe and the manner it was hung as well as to the rod spring pressure device?

A. Well, yes, of course a person naturally would do that, but of course the spring was the leading feature of the drill that we considered made the sale for it.

XQ. 5. During what years was the VanBrunt and other coil spring presure shoe drills sold in your territory?

A. The VanBrunt didn't come in there until more recently.

XQ. 6. About what years?

A. Well, I don't remember exactly. The VanBrunt wasn't handled there but very little until in the last two or three years, at that point. It is handled down the road further, but not up at Rolla.

XQ. 7. Well, about what year do you think it was introduced in the neighborhood of Rolla?

A. Well, I think Monroe handled quite a few, John Monroe, he handled quite a few of them, with the Monitor, about probably in 1895 or 1896, along there.

XQ. 8. 1895 or 1896?

A. Yes, somewhere in there.

XQ. 9. Weren't there a good many shoe drills sold in your territory that had coil spring pressure devices?

A. Well, no, there wasn't very many coil shoe drills sold there; the coil spring. Not very many.

XQ. 10. What shoe drills were mostly in competition with you in selling the Dowagiac drills?

A. Well, the McSherry was the first that we had any notice of that amounted to anything in the line of competition.

XQ. 11. Then what other ones?

A. Then they took up—Munroe did, as I said, took up the Monitor and a few of the VanBrunt.

XQ. 12. Did you sell any other kind of shoe drills in the years while you were selling the Dowagiac?

A. No, sir, only just sold a few of the Kentucky. There was a very few. In fact, of the shoe drills I can't remember but very few that we sold.

(The signature of the witness in the presence of counsel and the Masters is waived.)

ANDREW J. CODDING, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation?

A. Andrew J. Codding; I am 58 years old the 9th day of December, and I am what they call an implement dealer, at Valley City, North Dakota.

Q. 2. How long have you been engaged in the implement business?

A. I began the first day of January, 1895.

Q. 3. Before that time what experience had you had

with implements or machinery?

A. Very little, only on a farm.

Q. 4. When did you first become familiar with seeding machinery?

A. I began to see them first I think it was in 1885.

Q. 5. Where was you then located?

A. Valley City.

Q. 6. What style of machine was in use in 1895?

A. You mean seeding machine?

Q. 7. Yes.

A. I didn't know much of any excepting the Tiger and VanBrunt & Wilkins, and then the Dowagiac.

Q. 8. What type of seeding machine was the Tiger and VanBrunt & Wilkins at that time?

A. It was mostly seeders.

Q. 9. When did you first see the Dowagiac and what kind of a machine was that?

A. That was about the same time. I wanted a seeder or a drill; so I found a second hand Dowagiac drill. That was before they put any springs on. They were run by weights. They had weights that they put on the shoes when they wanted to go deeper.

Q. 10. When did you first become familiar with the Dowagiac shoe drill with springs?

A. That was a few years later than this. Really I didn't pay much attention to it until I began to handle them, and I inquired around and generally the Dowagiac was in favor then.

Q. 11. What feature of the Dowagiac was or seemed to be the one that attracted the attention of the people familiar with that subject?

A. Why, when they came out with the long spring, that attracted considerable attention. At least we used that for a talking point.

Q. 12. Did you sell the Dowagiac drill to farmers after you went into the business?

A. Yes, sir, the first drill I ever sold.

Q. 13. State what you would do and what features you would present to the farmers in making sales.

A. One thing was the shoe; the way the shoe entered the ground, and the next was the long spring. Our talking point was, to give it a long sweep up and down; raise higher and drop lower.

Q. 14. What would you do in exhibiting the drill to the farmer; what particular manipulation would you give it, if any?

A. Well, sir, we would show them the way the spring would act upon the shoe by forcing the spring down hard and then raising it up again; that is, take hold of it with our hands and raise it to show how high we could raise it and how far down it would go.

Q. 15. Did you regard this as of any practical value in the operation of the drill?

A. I did, yes, sir, and do yet.

Q. 16. About how many drills did you sell per annum after you began business?

A. I couldn't tell exactly. I think we sold about 20.

Q. 17. What was the strongest competition you had with the Dowagiac shoe drill?

A. The Kentucky.

Q. 18. The earlier competition was that?

A. Well, it was between the Tiger and the VanBrunt and Wilkins and the Dowagiac.

Q. 19. Was the Superior a competitor?

A. I never know much of the Superior. They are in there some. Of course some few of them bought them. I didn't pay very much attention to them.

Q. 20. How long did these drills, the Tiger and the VanBrunt, continue to compete with you, so far as shoe drills are concerned?

A. Well, sir, I kind of think they went out of business. That is, they haven't sold very many since 1900.

Q. 21. How did the quantity sold compare with the quantity of Dowagiacs?

A. Previous to this? That is before 1900?

Q. 22. Those early years?

A. Why, it was my impression they sold about a third as many as we did. That is my impression.

Q. 23. After the Kentucky drill was introduced what was the strongest competition that the Dowagiac had?

A. It was the Kentucky. The Kentucky is the strongest now.

Q. 24. Please state in your judgment whether after the Kentucky was introduced, if that drill had not been introduced what drills would have been sold in the place of the Kentucky; would it have been the Dowagiac or coil spring structures?

A. I think we would have sold the Dowagiac. That is my impression. The Kentucky is the only real hard competition we have had.

CROSS EXAMINATION

By Mr. Bowman—

XQ. 1. How many parts are there to a grain drill?

A. I couldn't tell you that.

XQ. 2. Well in rough numbers how many parts are there that are important in the operation of a grain drill?

A. You don't mean how many different pieces of iron?

XQ. 3. No. I mean such as the axles, wheels, feeds, gearing, etc.

A. A 20 shoe drill would be—well, it is pretty hard to tell; I believe about 200, just guessing at it.

XQ. 4. About 200?

A. I think so, isn't there?

XQ. 5. Now did you operate these drills and familiarize yourself with the different parts?

A. No, I didn't operate them. I set them up. Delivered them and instructed them how to handle them.

XQ. 6. Does the trade generally know much about the different parts, or take much interest in any particular parts of the machinery?

A. They are getting to know more than they used to, a great deal more.

XQ. 7. That is in the last year or two?

A. Yes—well, the last six or seven years they have got so [they] are looking a little sharper than they was before that.

XQ. 8. So that from 1900, you would say they were paying more attention to these matters?

A. Yes, a good deal more attention.

XQ. 9. Now, in this case, William J. Westergaard has testified he was a dea'er at Valley City; do you know him?

A. Yes.

XQ. 10. Is he is an active dealer there?

A. Yes.

XQ. 11. He has stated, and I will read his testimony,

"Q. 13. What are the facts as to the popularity in the trade of the VanBrunt coil spring pressure shoe drill?

A. It was at one time considered the most dangerous competitor.

Q. 14. What particular time was that?

A. In 1900, 1901 and 1902."

Do you think that he failed to tell the truth in that respect?

A. In 1900, 1901 and 1902?
XQ. 12. Yes.

Mr. Chappell: I object to that as incompetent.
The obection was overruled and an exception noted.

A. It was not my experience at all.
XQ. 13. Have you any reason to doubt that that was his observation and experience?
A. No. I don't know what his experience was I am sure. Westergaard is a truthful man. I consider him so.
XQ. 14. Isn't it a fact that dealers in covering a territory like yours will get in touch with different customers and different demands, and customers that have been educated to different kinds of drills or different ways of sowing?
A. Yes.

By Mr. Banning—
XQ. 15. Since 1900, these disc drills of various makes have come into quite extensive use, have they not?
A. Yes.
XQ. 16. And that has caused a falling off of the sales of shoe drills, has it not?
A. Yes, it has in a measure.
XQ. 17. Did you sell any other kind of drills than the Dowagiac?
A. Sold the Hoosier only.
XQ. 18. What year or years did you sell the Hoosier?
A. 1900 only. I sold one or two in 1901.
XQ. 19. What kind of spring pressure device did these Hoosier shoe drills have?
A. They had a coil spring, and then later they put on a different kind of spring. To tell you the truth I couldn't tell just what the spring is. I looked it over in Minneapolis. It was at the time that Staver was there; I went to his place. I paid but very little attention to it, because I got bitten so on the Hoosier drills, lost so much money on them, that I didn't want to hear a Hoosier spoken of.
XQ. 20. In selling Dowagiac drills did you not call the attention of the farmers to the general construction of the drill, its frame, its feed, the shape of the shoes and the manner in which they were hung so as to ride on the heel, and matters of that sort, as well as to the springs?
A. Sure.

XQ. 21. You attached importance to all of these features in making sales, did you not?

A. The two important features was the shoe and spring. We made our talk on that; on the shoe going lower in a dead furrow and in holes, or rising higher over trashy ground; over trashy stuff.

XQ. 22. You attached importance to the shape of the shoe, didn't you?

A. Yes.

XQ. 23. And the manner in which it was hung so that it rode on the heel?

A. Yes, sir.

XQ. 24. That enabled it to clear itself from trash, and prevented it from clogging, did it not?

A. It would help, yes.

XQ. 25. How about the feed? Did you not call attention to the kind of force feed that the Dowagiac drills had?

A. Well, I never said much about that. There isn't but very little difference in any of them in that particular. Of course we always thought ours was the best.

XQ. 26. And you expressed that opinion in making sales, did you not?

A. Yes, sir.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 25. The feed on shoe drills is similar to the feed on the seeders, broad cast seeders, or aren't you familiar with broad cast seeders?

A. I am not familar with broad cast seeders.

By Mr. Banning—

XQ. 27. The first Dowagiac shoe drills, I believe you said, that you used or became acquainted with, had weights for pressing the shoes into the ground?

A. Yes, sir.

XQ. 28. Those drills worked satisfatcorily, did they not?

A. Yes, but not so much so, but that was the leading drill in our country there.

XQ. 29. You mean that they gave satisfaction, but not as great satisfaction as the Dowagiac drill with the rod spring pressure device: is that it?

A. Yes.

By Mr. Bowman—

XQ. 30. You have referred to the different machines having some parts alike, and have also referred to having been bitten on the Hoosier drill; will you explain in what way you were bitten on it?

A. Well, they were made too weak; the castings were not the right kind.

XQ. 31. That is a very vital part of the machine, is it not?

A. Yes, sir.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 26. You have referred to the Hoosier drill as a coiled spring pressure; can you describe it definitely so that we can know what it is?

A. I cannot.

RDQ. 27. When did you last see a shoe drill with the weight pressure on the shoes?

A. Well, it was the one I owned I told you of. That is the last one I ever saw, and I sold that about 14 or 15 years ago.

RDQ. 28. Have you seen any in use since?

A. No, sir.

RDQ. 29. Have you seen any other shoe drill with weights for pressure since then?

A. No, sir.

(The signature of the witness in the presence of the Master and Counsel is waived.)

HERBERT WESTON, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation?

A. I am 45 years old; my occupation is a farmer; residence Valley City, North Dakota.

Q. 2. How long have you been engaged in the business

of farming, and where?

A. Ever since I was a boy; about 25 years at Valley City.

Q. 3. Please state your familiarity with seeding machinery?

A. Well, I have used a good many drills; used to use the old fashioned seeder, and when I was a boy in the state of Maine we sowed it by hand; sowed our wheat by hand; then the next seeder was the old fashioned broad cast seeder.

Q. 4. And when did you discontinue the broad cast seeder and take up drills?

Mr. Bowman: Objected to as improper rebuttal.
The objection was overruled and an exception noted.

A. 1891.

Q. 5. What sort of a drill was it that you became familiar with then; whose make?

A. It was the VanBrunt & Wilkins if I am not mistaken. I think that was the name, the VanBrunt & Wilkins, or the Wilkins drill.

Q. 6. In what way did you become acquainted with it?

A. I bought some.

Q. 7. How long did you continue to use it?

A. Three years.

Q. 8. What drill did you use after that?

A. The Tiger drill.

Q. 9. How long did you use the Tiger?

A. Three years.

Q. 10. What did you use after you used the Tiger?

A. I bought Dowagiac drills.

Q. 11. Did you ever use a Superior shoe drill?

A. I have had the Superior shoe drill; the Superior disc drill; two discs; double discs, and I also had a Havana press drill, and a Hoosier drill in those times. I don't remember exactly what years.

Q. 12. What objections, if any, did you find to these different makes of drills; indicate each one specifically.

A. I don't know as I have any great objections to them. I didn't think they was so good as the Dowagiac drill that I got last.

Q. 13. How were they for durability?

A. They are not so durable. I wore them out quicker.

Q. 14. What parts would wear out?

A. Well, the springs would break that holds the shoe in place, and they also would clog in the shoe.

Q. 14. State what objections, if any, you found to the Dowagiac drill?

A. I haven't any objections.

Q. 15. Did the Dowagiac drill ever trouble you by clogging?

A. No, sir, far superior to the other, and the spring that is used on the Dowagiac drill allows the shoe to go down or up without clogging; leaves the same pressure on it.

Q. 16. State what you know, if anything, about the comparative durability of the Dowagiac drill and these drills which you purchased since 1891, or thereabouts; do you know of any Dowagiac drill in use that you can compare with?

A. Yes, sir. The reason I bought Dowagiac drills, one of my neighbors had a Dowagiac drill that he bought at the time I bought my first drill and it is in use now. I have worn out two or three.

Q. 17. State whether he used the drill to the extent that you used your drills.

A. Well, he done as much with one drill as I done with one drill. I had more drills, but he farmed a half section and used one drill, and I farmed two sections and a half and used two drills.

Q. 18. What was your objection to the Havana drill?

A. The Havana drill was too heavy, my chief objection to it.

Q. 19. Was you troubled with clogging with that?

A. Well, it wou'd clog some but that could be remedied; the man on the seat could throw it over the clog. With the other drills you can't so easy.

Q. 20. When you say "heavy" do you mean a heavy drill to operate, or its actual weight as compared with other drills?

A. Heavy to operate; too hard on the horses.

Q. 21. Can you operate it with the same amount of team force that you can with the other; the same number of horses?

A. No, sir. It isn't as large a drill. A drill that will cut eight feet will take as many horses as a Dowagiac drill that will cut 12; so that we could do half as much again with the same horses.

CROSS EXAMINATION

By Mr. Bowman—

XQ. 1. You have spoken of the durability of the Dowagiac drill?

A. Yes, sir.

XQ. 2. Do you refer to any particular parts?

A. Well, I don't know as there is any particular parts that would break. There is nothing on it that breaks as it does the other drills that I have used. I have used two Dowagiac drills four seasons—five seasons, and I have had no breakage whatever, and I never did use one of the other drills that I had without having to get five or six different springs, and this other thing that holds the spring would break.

XQ. 3. The rods?

A. Yes, and they was very complicated to put on; you have got to pretty near take the machine all apart to put them on.

XQ. 4. That you found an objection, taking the machine apart?

A. Yes, sir.

XQ. 5. Now, is there any wear in the gearing and other parts connecting the Dowagiac drill?

A. Well, no more than there is in all of them.

XQ. 6. Those parts all have some wear?

A. Yes, sir.

XQ. 7. Require to be replaced and renewed?

A. I should think so, yes, sir.

XQ. 8. What is the fact about the shoe itself; is there any wear on the heel or on the runner of the shoe?

A. On what drill?

XQ. 9. On the Dowagiac or others?

A. The Dowagiac drill sets more up on its heel, and is allowed to penetrate the ground easier than some of the other drills.

XQ. 10. That makes it easier?

A. They have drills now in the market that are equal in that same line. I think that they call it the Kentucky drill, the only one that I have seen that is built like it.

XQ. 11. When did you see that?

A. Oh, it has been in the market a couple of years. Mr. Westgergaard handles it I think.

XQ. 12. About 1903, when you saw it?

A. Well, I don't know. I have seen it the last two sea-

sons. I don't remember. It might have been there before, but I haven't noticed it before.

XQ. 13. Did you examine the spring?

A. The spring is a good deal like the Dowagiac spring, and then the heel sets up so that it presses it in. The shoe is more like a Dowagiac shoe than on any of the others I think.

XQ. 14. What you paid particular attention to was the inclination of the shoe, was it not?

A. Yes, sir.

XQ. 15. What is the greatest period of time that you ever used a shoe, that is, without renewing some parts of it, or sharpening it up or reparing it?

A. Well, I have used my Dowagiac drills I think four years; four seasons; I didn't use them this season; I rented my farm, but the man used them that had the farm. I have never had any sharpened up.

XQ. 16. You referred to the coil springs that you say would break; do any of those springs act by contraction, and does the breakage of the spring interfere with its use?

A. Yes, sir. If the springs break of course that takes all the pressure off from that shoe.

XQ. 17. Why? If the spring acts by contraction and the spring stays on the rod, you still can push that spring down, although it may be in two parts, can you not?

A. Oh, no. The ones that I had went down with a rod to the shoe, a spring that pressed down around the rod, and the spring was always breaking. Both of them.

XQ. 18. Well, I was referring to the breaking of the spring alone; would that interfere with your using it if the rod had remained intact?

A. It would not interfere with your using it, but it would interfere with the pressure of it, you know. If you pressed it down solid without any spring on it you would break your shoe.

XQ. 19. The spring, even if broken, would stay on the rod would it not?

A. Well, yes, but the rod that holds the spring would break too.

XQ. 20. Well, you have referred first to the breaking of the spring?

A. Well, now look here; I don't mean that the spring itself would break alone, but these rods that holds the spring would break too, and that takes the whole thing off.

XQ. 21. So that those rods were not strong enough, or for some reason would break?

A. The spring rods would break, yes.

XQ. 22. The spring rods?

A. Yes.

By Mr. Bowman—

XQ. 23. Isn't the satisfactory operation of the Dowagiac shoe drills to some extent, and I may say to a large extent, due to the particular shape of the shoe, and the inclination at which it is mounted or hung in the drill?

A. Yes, sir, that would be one reason that I was attracted to them.

XQ. 24. Doesn't the fact that the shoe is hung so as to ride on the heel enable it to clear itself from trash and obstructions better than the shoes of most other drills?

A. Yes, sir.

XQ. 25. You never sold shoe drills of any kind as a dealer, I believe?

A. No, sir. I have always been the fellow that had to buy.

XQ. 26. What about the feed on the Dowagiac shoe drills as compared with the feed on the other drills that you used?

A. Oh, I think they are all about alike. I never saw any difference in them.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 22. State whether or not it was neccessary for you to buy new springs on the coil spring structures of drills which you used, where they had coil springs for pressing the shoes into the ground?

A. I think it was the rod that holds the spring, and the thing that holds them rods that used to break mostly.

RDQ. 23. But my question is with regard to the springs themselves; did you have to renew them from time to time?

A. Yes, sir, they had to renew them to keep them with the spring in them. They would get weak.

RDQ. 24. Did you ever notice any of the springs on the Dowagiac drill getting weak?

A. No, sir.

(The signature of the witness in the presence of Counsel and the Masters is waived).

CHARLES E. JONES, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation?

A. Charles E. Jones; residence, Lisbon, North Dakota; occupation, retail lumber, implement and harness business.

Q. 2. How long have you been familiar with the implement and machinery business; farm implements?

A. Well, in different lines about 14 years.

Q. 3. Please state your familiarity with the seeding machinery, and when you first became familiar with shoe drills?

A. I started to work for the Van Brunt & Wilkins Drill Co. in the spring of 1894; I was with them until the fall of 1898, and at that time I went with Deere & Webber Co. and worked until last March.

Q. 4. At the present time what grain drill are you handling?

A. We handle the Kentucky and the Monitor drill.

Q. 5. Please state whether either of those are shoe drills or disc drills?

A. Why, they are all disc drills, except I think we had one shoe drill this year.

Q. 6. What make was the shoe drill?

A. A Kentucky.

Q. 7. What were your duties when you were in the employ of the VanBrunt & Wilkins Co., and isn't that company a predecessor of the VanBrunt Manufacturing Co.?

A. It is. I had charge of the contracts and settlements on a territory which consisted of a part of North Dakota and part of Minnesota, with headquarters at Fargo.

Q. 8. That trerritory generally is known as the Red River Valley of the North?

A. Yes, I think that pretty nearly covers it.

Q. 9. Did you have to do with the selling of VanBrunt shoe drills?

A. Yes, sir, to dealers.

Q. 10. You had nothing to do with selling the same to the farmers I believe?

A. Not particularly, no.

Q. 11. After your employment with the VanBrunt people ceased you were in the employ of Deere & Webber?

A. Yes, sir.

Q. 12. What kind of drills did you handle while in their employ?

A. The Kentucky.

Q. 13. Did you give much attention to the Kentucky shoe drill while in their employ?

A. Well, about the same as to the other lines I think.

Q. 14. The shoe drill business was not an exclusive business when you were in the employ of Deere & Webber?

A. No, sir.

Q. 15. But there were other lines, other implements as I understand?

A. Yes, sir.

Q. 16. About what part of their business would you think was shoe drill business?

A. What proportion of it?

Q. 17. Yes.

A. I should think it was just a small proportion. I am sure I could not state anywhere near the percentage. It would be small, I should think. I know it was.

Q. 18. You were trained and educated in the grain drill business in the first place as to the virtues and advantages of the VanBrunt shoe drill, were you not?

A. Yes, sir.

Q. 19. State about how many Van Brunt shoe drills you would sell per annum in this territory that you covered which as I understand, takes in the eastern part of the Dakotas and the western part of Minnesota, and known generally as the Red River Valley region?

A. Well, that varied a little every year. I think it increased a little every year. During the period that I worked for them I think it ran from about between four and five hundred to between ten and eleven hundred machines. There would be a small percentage of, I don't know, perhaps 20 or 30 seeders in that every year at the first.

Q. 20. What sizes of grain drills were those?

A. Why, they were mostly 17's and 22's. A very small percentage, just a few 12's and 14's. Very few of them I should think.

Q. 21. What was your strongest competitor in the shoe

drill business in that territory while you was in charge of it for the Van Brunt people?

A. The Dowagiac, I should think.

Q. 22. You were aware of such drills as the Kentucky, the McSherry and the Peoria shoe drills in that territory, that have been held to infringe the Dowagiac, were you?

A. Yes, sir. The McSherry drill, I don't think I can remember of ever coming in competition with it now. I knew of it, though.

Q. 23. In your judgment and from your familiarity with the territory, state whether the VanBrunt or the Dowagiac would have been likely to have taken the trade which was taken by the Kentucky and other drills like the Dowagiac that were in competition, and assign any reason for the answer you may make?

A. Well, I don't know. The VanBrunt trade was growing; their percentage of business was increasing every year. I don't know just how the division might have been.

Q. 24. You don't feel competent to say?

A. You mean if the other drills hadn't come in at all?

Q. 25. If the other drills had not come in at all?

A. No, I don't know. I think that the Van Brunt was gaining; that is, their percentage of trade was growing every year. I don't know what the division might have been. They were just commencing to get aggressive.

Q. 26. The Dowagiac Company had this territory thoroughly covered, and were aggressive over the entire territory, and were ready for any of that business, were they not?

A. I don't know as I just understand your question. I think they had it pretty well covered. I don't know that it was covered any more than the other one, in the territory that the other one worked.

Q. 27. In showing up the Van Brunt drill, please state to what features the attention of a prospective purchaser was directed?

A. Why, to the spring pressure, to the tilting lever device on the pole, and the adjustment on the shoe. I don't know that I can just explain that to you now, but as I remember there was little bars run up there with notches in them, and to the flexible frame; the steel frame, and the way they was trussed. That is all the points I call to mind now.

Q. 28. What was the object of the adjustment of the shoe?

A. Why, so that you could make it run more or less on the heel.

Q. 29. What was the object of the tilting lever to which you have referred, and what explanation did you make regarding that?

A. I think the object of that tilting lever was if trash gathered in front of the shoe you could tilt your lever over and your shoes would pass over it.

Q. 30. Then would the lever be adjusted back to the first position after you had passed over the trash, or would it be left in the position to which you had adjusted it?

A. I think the farmer would adjust it back.

Q. 31. That was your understanding of it?

A. Yes, sir.

Q. 32. Did you regard that feature of any particular importance?

A. It seemed to carry quite a lot of weight with it.

Q. 33. Did the shoe grain drills with coil spring pressure, that didn't have that feature, amount to very much in competition?

A. I don't think so at that time.

Q. 34. That is, at the time you were in the employ of the Van Brunt people; is that right?

A. I don't think that there was any very strong competition at that time by other coil spring pressure drills. I don't know; the Monitor drill had quite a trade up here at one time. The first part of the time that I worked for the Van Brunt & Wilkins Co. I think the Monitor Drill Co. had quite a trade up here. I believe they didn't have that device. They had coil spring pressure.

Q. 35. But their trade rapidly diminished, did it not?

A. I think it decreased.

Q. 36. In selling the Van Brunt drill you also made reference to the direct spring pressure, did you not, bearing right over the heel?

A. Yes, sir.

Q. 37. I think you have already said that the Dowagiac shoe drill was your strongest competitor when you was handling the Van Brunt; what was your next strongest competitor during that period?

A. Well, that varied with the different years. That is, I think the first year the Monitor Drill Co. was.

Q. 38. After the Kentucky drill was introduced did you encounter that?

A. Yes, sir.

Q. 39. Was that as strong a competitor as the Dowagiac, or how did it compare with it?

A. The Kentucky hadn't been so'd up here very long when I quit the Van Brunt.

Q. 40. I think you said you quit in 1898?

A. 1898, yes. I don't remember of hearing much about the Kentucky until 1897 or 1898. It was up here I know, but up to that time I don't think——

Q. 41. Then after the Monitor there wasn't very much competition except the Van Brunt and the Dowagiac; is that right?

A. Well, there was the Peoria drill was in at some places and the Kentucky. There was more drills represented up here afterwards. That is, a good deal more companies.

Q. 42. I was inquiring just for the time you was with the Van Brunt?

A. Yes, that is what I mean. The last two years I was with the Van Brunt there was more drills; they were breaking in at different places; different drills.

Q. 43. What was the strongest competitor of the Kentucky drill when you came to handle that; did that compete especially with the coil spring structures, or with the structures with spring like the Dowagiac?

A. Well, both.

Q. 44. Is it not a matter of fact that after a community or a number of men in a certain territory have been educated that the Van Brunt drill is the proper drill, that the drill that will compete in that territory is of that type, and in another community where they have been educated and working with the Dowagiac type, that the only drill that is a serious competition is of the Dowagiac type; isn't that a correct statement of the facts?

A. Why, I don't think that would be necessary.

Q. 45. Isn't that practically so?

A. Why, I don't think that it is. It is very often the case that one of the others will step into a territory that they have not had much trade in, and increase their trade, and practically hold their own, or more sometimes. That depends largely on the energy, I should think.

CROSS EXAMINATION.

By Mr. Bowman—

XQ. 1. As a matter of fact, Mr. Jones, isn't it true that in the territory you have been familiar with, that there is a great deal depends on who is behind the drill, and the repu-

tation of the dealer and the energy of the parties?

A. I think so.

XQ. 2. From your experience with those different kinds of drills, the Dowagiac, Kentucky and Van Brunt, is it not true that the Van Brunt, properly pushed, with the energy that some of these other companies have exerted, would have been the leader of them all?

Mr. Chappell: That is objected to as calling purely for a conclusion of the witness.

The objection was overruled and an exception noted.

A. Well, I always thought the time when I was working for them that they would have had as much, anyway.

XQ. 3. Well, have you had any reason to change your opinion since that?

A. No, sir.

XQ. 4. Have you in your territory had any great experience with the Kentucky coil spring shoe drill that has been put out of late years?

Mr. Chappell: That is objected to as not proper cross examination.

XQ. 4. That question is withdrawn, and I will put it in this shape; did the Kentucky coil spring shoe drill that has been put out late years use a tilting lever or a device of that character?

A. A tilting lever on the pole, you mean?

XQ. 5. On the pole?

A. No, sir, I think not.

Mr. Chappell: I object to that as not proper cross examination, and I will make a motion to strike it out.

Motion denied and an exception noted.

By Mr. Banning—

XQ. 6. I believe Mr. Jones you have said that the sales of Van Brunt shoe drills with their coil spring pressure devices, made headway and increased notwithstanding the competition that they met with from the Dowagiac and other shoe drills that were in the market; did I understand you correctly?

A. I think that is true on the territory that I covered, as far as I know. That is my recollection of it.

XQ. 7. That states the result of your experience and knowledge on the subject, does it?

A. Yes, sir.

XQ. 8. If there had been no Kentucky or Peoria or McSherry shoe drills for the Van Brunt drills to meet and compete with, what in your opinion would have been the result or effect on the sale of Van Brunt drills?

A. Well, I don't see how they could help but be more.

XQ. 9. That is, they would have been still greater, would they, in your opinion?

A. I should think so, yes, sir.

XQ. 10. If the Dowagiac drill then had been the only one that it had met on the market, you think the sales of the Van Brunt would have been still greater increased?

A. Yes, sir.

XQ. 11. How important, in your opinion, is it, to have the shoe of a shoe drill of correct shape and correct hang, so as to ride on the heel?

A. Well, I think that is a necessity.

XQ. 12. That decreases the draft, does it not?

A. Yes, sir.

XQ. 13. And enables it to ride over obstructions the better, does it not?

A. Yes, sir.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 46. Mr. Jones, in the interview that I had with you this morning before you took the stand, I understood you that in your judgment, with the Dowagiac Company aggressive, had not the infringing drills, particularly the Brennan and the McSherry been sold, that it was your judgment that the Dowagiac Company would have gotten that business; did you not so state to me in that interview?

A. In the interview this morning I think you put your question that if the Dowagiac Company were aggressive and the Van Brunt Company not aggressive, that they would have got a greater proportion of the business than the Van Brunt.

RDQ. 47. Well, I understood you to say that the Dowagiac Company was aggressive, and that the VanBrunt was not?

A. That is true the first period that I worked for the

Van Brunt. They had just commenced to be aggressive.

RDQ. 48. Then your judgment, under the circumstances as they actually existed, was that the Dowagiac Company would have gotten the business had it not been interfered with by those other infringers; is that right?

Mr. Bowman: I object to that as immaterial and calling for too much of an opinion.

The objection was overruled and an exception noted.

A. If the VanBrunt & Wilkins Co. hadn't become aggressive, I think that would be right. Somebody had to have it.

By Mr. Banning—

X Q. 14. Do you think that the Dowagiac Company's sales of shoe drills would have been increased to the extent of the sales of the Kentucky, McSherry and the Peoria drills, if those drills had been eliminated from the market, notwithstanding the Van Brunt and other coil spring pressure drills were offered on the market?

A. I don't think they would have got that greater proportion of the trade.

By Mr. Chappell—

RDQ. 49. In selling the Van Brunt drills did you ever succeed in selling a Dowagiac agent the Van Brunt drills except possibly in the year 1892?

A. Well, I think that—well, I don't know; two or three possibly, agents that handled the Dowagiac drill. I don't know which one they handled first.

RDQ. 50. Can you indicate who they are?

A. Why, Smith at Reynolds, and Philips—I guess Philips handled the Van Brunt first.

RDQ. 51. Reynolds, in what state?

A. Reynolds, North Dakota. I don't call to mind any others now.

By Mr. Ronald—

Q. If the Van Brunt and the Dowagiac people had been equally aggressive, are you able to state in what proportions they would have divided the business that went to the in-

fringing drills, the McSherry and the Kentucky and the Peoria?

A. Why, no. I don't see why they should not be about equal, but I would not be able to say exactly of course.

By Mr. Chappell—

RDQ. 52. Indicate any of your Van Brunt agencies that were taken from you on account of the merits of either the Kentucky, the McSherry or the Peoria drill, and where they became substituted as agents for one or the other of those drills, where they had been formerly handling the Van Brunt?

A. I don't recollect now any place where we lost an agent to one of those drill companies. There were places where they added on another drill and thought it wise to handle the two. There may have been places where they were substituted, but I don't recollect them now.

RDQ. 53. Well, they would add on the other drill for the sake of having something that would compete directly with the Dowagiac, wouldn't they? That would be the excuse they would assign; is that right?

A. No, I don't know as that is right.

RDQ. 54. They didn't want to confine their energies all to one variety of drill; they wanted to have the other kind, too; isn't that so, where they added it on?

A. Well, different circumstances I suppose in different places. I don't remember anybody giving that reason.

(The signature of the witness in the presence of counsel and the Masters is waived.)

The further taking of testimony in these matters was here adjourned until 2 o'clock P. M.

Wednesday, October 4th, 1905, 2 o'clock, P. M.
Met pursuant to adjournment, present as before.

MARTIN N. EARLY, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation?

A. My name is Martin N. Early; residence at Wahpeton, North Dakota; age 45 years; my occupation is implement dealer.

Q. 2. Are you dealing in your own name or are you a member of a company?

A. I am a member of a company.

Q. 3. Give the name of the company, please?

A. The name of the company is Charles Youngquist & Co.

Q. 4. How long have you been engaged in the implement business?

A. 11 years.

Q. 5. At that place?

A. Yes, sir.

Q. 6. Before you engaged in the implement business what was your business?

A. Farming.

Q. 7. At what place?

A. South of Wahpeton.

Q. 8. How long have you lived in this country?

A. Do you mean in the Red River Valley, North Dakota?

Q. 9. Yes.

A. 25 years.

Q. 10. You are familiar with the seeding machinery that has been used in this region since that time; 25 years?

A. Most of it, yes.

Q. 11. Please state what sort of seeding machinery you were familiar with in the first place, and in use here, and what followed it?

A. Why, the first seeding machinery we used here was the broadcast seeder, and next came the shoe drill.

Q. 12. What make of shoe drills did you observe first?

A. The first was the Superior.

Q. 13. And next you noticed what?

A. The Dowagiac, I think.

Q. 14. Were you also familiar with the Van Brunt?

A. Yes.

Q. 15. Which of these did you use first, or see in practical use first?

A. The Superior.

Q. 16. What drills did you use in your farming operations?

A. I used the Superior and the Dowagiac.

Q. 17. How did it happen that you changed from the

Superior to the Dowagiac?

A. Why, the Superior was a very heavy draft, and my brother got a Dowagiac and it was so much lighter I discarded the Superior and bought a Dowagiac.

Q. 16. State whether or not in trashy ground you had any trouble with the Superior drill?

A. Yes. It would push the stuff ahead of the shoe. It would not clear itself.

Q. 19. What sort of spring pressure was there on the Superior shoes?

A. Coil spring.

Q. 20. What sort of spring pressure was on the Dowagiac that your purchased?

A. It was a long spring bar; a round spring.

Q. 21. Which had the better play of shoes up and down, the Dowagiac or the Superior?

A. The Dowagiac had much the best play.

Q. 22. As an implement dealer what make of shoe drills have you handled?

A. Well, we first handled the Dowagiac, and have always handled the Dowagiac, but we have had other shoe drills. We have had the Kentucky, we have had the Fountain City, and others in the second hand line that we were trading in.

Q. 23. What features of the Dowagiac drill do you exploit in making sales?

A. Why, the springs. The long springs is the principal feature.

Q. 24. Make any reference to the shoes and the way they stand?

A. Yes, the position of the shoe; only a small portion of the point going into the ground secures light draft.

Q. 25. You have sold drills to farmers yourself, so that you speak from experience about this?

A. Yes, sir.

Q. 26. About how many Dowagiac drills did you sell on the average during a season, of the shoe type, while they were in vogue?

A. About 20.

Q. 27. What drills were in competition with you at Wahpeton?

A. In the shoe drill line it was the Van Brunt. A very few Sucker States and some Monitors.

Q. 28. The material competition being the VanBrunt; is that what you mean?

A. Yes.

Q. 29. What led you to handle the Kentucky shoe drill?

A. We were buying goods from Deere & Webber of Minneapolis, and they had a plow known as the Deere Plow, which we considered a very good plow, had a good trade at our point, and they refused to sell us plows unless we bought some of their drills and other goods, and for that reason we bought some of their drills.

Q. 30. What features of the Kentucky drill did they refer to in making sales to you as reasons for claiming that it was a good drill?

A. Why, they referred to the long spring and the position of the shoe, which they claimed was practically the same as the Dowagiac.

Q. 31. You say you have handled Fountain City shoe drills?

A. We have.

Q. 32. Why did you take those up?

A. We took those up because they had a cheap drill, and they were almost an exact type of the VanBrunt, which was our chief competitor in the drill trade.

Q. 33. What sort of a spring has the Fountain City?

A. A coil pressure spring.

Q. 34. That was taken up for direct competition with the Van Brunt; is that the idea?

A. Yes, sir.

Q. 35. Are you at all familiar with the McSherry shoe drill?

A. Why, yes, I have seen some of them; had some of them.

Q. 36. Are they on sale in competition with the Dowagiac at your place?

A. Not now.

Q. 37. Were they in any time past?

A. Why, they were carried in stock to some extent. I think they were always on hand. Very few of them sold.

CROSS EXAMINATION

By Mr. Banning—

XQ. 1. I believe you have said that while you were selling Dowagiac drills, the Van Brunt, the Sucker State and the Monitor shoe drills were sold in competition?

A. Yes, sir.

XQ. 2. These shoe drills all contained coil spring pressure devices, did they?

A. Yes, sir.

XQ. 3. You say you sold about 20 Dowagiac shoe drills a year?

A. Yes, sir.

XQ. 4. Why didn't you sell more?

A. That was all the trade that we had.

XQ. 5. Do you mean that was all you could sell?

A. Why, I presume if we had made special efforts we could have sold more.

XQ. 6. Some of the farmers preferred to buy the Van Brunt, or the Monitor, or the Sucker State, did they not?

A. It was usually the difference in price that induced them to buy.

XQ. 7. Very well, they did buy them?

A. Yes.

XQ. 8. And preferred to buy them?

A. I don't know as they preferred them. They bought them.

XQ. 9. They bought them in preference to buying the Dowagiac drills at the price at which you offered them?

A. Yes, sir.

XQ. 10. Isn't that the fact?

A. Yes, sir, that is the fact.

XQ. 11. You say that the Dowagiac drill was much lighter than the Superior shoe drill?

A. Lighter in draft, yes, sir.

XQ. 12. What caused that greater lightness in draft?

A. The small portion of the point of the shoe of the Dowagiac drill that went into the ground, which I account was the cause of the lightness of draft.

XQ. 13. You called the attention of the farmers to the position of the shoe in the Dowagiac?

A. Yes, sir.

XQ. 14. In making sales, did you?

A. Yes, sir.

XQ. 15. And you explained to them that that caused greater lightness in draft, did you?

A. Yes, sir.

XQ. 16. Were your sales of Dowagiac drills prevented from being more than about 20 a year because of the McSherry shoe drills that were there?

A. Why, I presume that the McSherry and other drills

cut down our sales?

XQ. 17. Would you say that the McSherry drill alone cut down your sales?

A. Why, to some extent. There was some of them sold there.

XQ. 18. Might not those who bought the McSherry drills have bought the Van Brunt or the Monitor or the Sucker State, so far as you know?

A. Not all of them.

XQ. 19. How do you know?

A. I have had customers say that the McSherry had the same pressure on it that the Dowagiac had, and for that reason they would buy them because they could get them cheaper.

XQ. 20. Did any of them tell you that they would have bought the Dowagiac if they could not have bought the McSherry?

A. They told me they would buy the Dowagiac if they could get it at the same price.

XQ. 21. Then the question of price cut a figure with them, did it?

A. Yes.

XQ. 22. When did you first see a Dowagiac shoe drill?

A. I think it was 1889 or 1890. I couldn't be positive as to the year.

XQ. 23. What kind of pressure device, if any, had the first ones that you saw?

A. The first one that I saw had a flat spring and I think a weight, and a heavy casting—the boot had a heavy casting on it to give it more pressure to go into the ground.

XQ. 24. That is, to increase the pressure they would put on additional weight?

A. Yes.

Q. 25. Did you see that drill in operation?

A. No, I didn't see any of those in the field in operation.

XQ. 26. Did you know of any of them being sold?

A. Yes.

XQ. 27. About how many?

A. Oh, I didn't see but very few of those; probably two or three.

XQ. 28. Do you know what satisfaction they gave to the farmers who bought them?

A. No, I do not.

XQ. 29. Did you ever replace one of them with the

rod spring pressure device Dowagiac drills, afterwards?

A. I think we have, that is, after they were practically worn out.

XQ. 30. After they were practically worn out?

A. Yes.

XQ. 31. You sold them another Dowagiac drill?

A. Yes.

XQ. 32. With the rod spring pressure device?

A. Yes.

By Mr. Bowman—

XQ. 33. Mr. Early, you spoke of handling the Fountain City drill; what years did you handle that?

A. We have had those for four or five years last past.

XQ. 34. That is, from about 1900 to 1905?

A. Yes.

XQ. 35. What drills did you handle that competed with the Van Brunt prior to that time?

A. The Dowagiac.

XQ. 36. There was a direct competition between the Dowagiac and the Van Brunt, was there not?

A. Yes, there was some VanBrunts sold there.

XQ. 37. You took on in 1900 the Fountain City coil spring shoe drill to compete also with the Van Brunt; is that correct?

A. Yes.

XQ. 38. What is the fact as to whether you would have purchased of the Deere & Webber Co. their shoe drill in order also to get their plow, had they made their drill with a coil spring instead of the flat spring?

A. We probably would have taken some, because we didn't want to lose their plow.

Mr. Chappell: This is objected to as purely hypothetical and not relating to the facts as they existed.

The objection was overruled and an exception noted.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 38. Please state, if you know, whether the Van-Brunt drill sold at Wahpeton was sold at a greater or less price than the Dowagiac?

A. Generally a less price.

RDQ. 39. What price did you pay for the Kentucky drills which you bought; more or less than for the Dowagiac?

A. I could not give the exact figures that we paid for either of the drills in those years, but I know that the Kentucky was some cheaper than the Dowagiac.

RDQ. 40. In selling it to the farmers did you sell it for more or less than the Dowagiac?

A. Why, we held them at about the same price.

(The signature of the witness in the presence of the Masters and Counsel was waived.)

NORMAN NELSON, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation.

A. My name is Norman Nelson; I live at Church's Ferry, North Dakota; I am in the machine business at present; I am 42 years old.

Q. 2. When did you come to North Dakota?

A. I came here in the spring of 1889.

Q. 3. What was your business before you went into the machine business, and when did you go into the machine business?

A. I went into the machine business in 1898 for myself, and worked at it some before that for Mr. John Erie. I think it was in 1895 I went to work for him.

Q. 4. Before that what was your business?

A. I was in the grain elevator business; buying wheat and grain. Also farming some.

Q. 5. When did you begin handling grain drills?

A. 1898.

Q. 6. What make of drills did you handle?

A. The Dowagiac.

Q. 7. Shoe or disc?

A. Shoe drills at that time.

Q. 8. Were you familiar with other makes of shoe drills prior to that?

A. Somewhat, yes, sir.

Q. 9. What sort of spring pressure device did the Dowagiac shoe drill have that you handled?

A. A rod spring is what I called it. I don't know.

Q. 10. Did you sell them to the farmers personally?

A. Yes, sir.

Q. 11. Please state what features you dwelt on in selling the Dowagiac shoe drills to the farmers?

A. Well, I made the point on the shoe, the way it was hung, the point of the shoe working in the ground, and also the spring.

Q. 12. What other shoe grain drills did you handle besides the Dowagiac?

A. Well, I never handled any others, that is, to any great extent. I guess I have sold three or four Kentuckys or something like that.

Q. 13. How did you come to handle the Kentuckys, and when was it?

A. Oh, I don't know whether I handled any of the Kentuckys until I think it was in the spring of 1900 I had four of them. Possibly one or two before that, too. I ain't certain.

Q. 14. Under what circumstances and what influenced you to handle the Kentuckys?

A. Well, I don't know. I buy most of my goods from the Deere & Webber Co., and they handled that drill, and they were kind of anxious to have me sell some of their Kentucky drills, but I had a pretty good trade worked up on the Dowagiac; in fact it was there before I bought in the place, and I had pretty good success with them, and I didn't care about changing, but I did get in four of them; I think it was in 1900.

Q. 15. What feature if any did the Deere & Webber Co. refer to about the Kentucky drill to influence you to handle that in place of the Dowagiac?

A. Oh, I don't know as there was anything particular that they brought up, outside of, of course, their salesman generally like to show you the good points of their machinery of course, but I can't think of anything in particular that was brought up.

Q. 16. Did they refer to the spring devices in any way?

A. No, I couldn't say that they did. I can't say that they brought up anything there that they claimed they had superior to the Dowagiac or any other drill. They was kind of anxious for me to handle their drill, and of course I handled their plows and buggies, and a lot of other of their

goods, and they wanted me to handle the complete line, handle their full line, and of course I couldn't blame them for that.

Q. 17. Did they say whether or not the spring was similar to the Dowagiac?

A. No, I can't say that they did.

Q. 18. Any Van Brunt drills sold at your place in competition with you?

A. No. There was five or six shipped in there one spring but they were not sold. I think there was one of them sold there. That was all. I forgot what year it was.

CROSS EXAMINATION

By Mr. Banning—

XQ 1. About how many Dowagiac shoe drills did you sell a year on the average?

A. Oh, I should judge 18 or 20, something like that.

XQ. 2. What kept you from selling more, if anything?

A. Well, I don't know. I supplied my customers and that was about all I could do.

XQ. 3. That is about all you could sell, was it?

A. Yes.

XQ. 4. What other shoe drills of any kind were sold in your territory?

A. The Monitor and the McSherry, and I guess several —I forget the name—Sucker State; I guess there was a few of them sold there.

XQ. 5. Any VanBrunts sold in your territory outside of your own particular town?

A. I don't know, I am sure.

XQ. 6. The Sucker State and the Monitor had coil spring pressure devices for the shoes, did they?

A. Yes, I think they had.

XQ. 7. Didn't the sale of those drills prevent you from selling more Dowagiac drills in your territory?

Mr. Chappell: That is objected to as immaterial.

The objection was overruled and an exception noted.

A. Well, I presume likely they did. If they hadn't been there and been sold probably I would have sold Dowagiacs in place of them.

XQ. 8. Weren't there farmers who preferred to buy the Monitor or the Sucker State to the Dowagiac?

Mr. Chappell: The same objection.

The objection was overruled and an exception noted.

A. Who preferred to buy them?

XQ. 9. Yes, who preferred to buy them on account of the price or something of that sort?

A. Yes, possibly on account of the price.

XQ. 10. But for some reason they bought them instead of buying Dowagiac drills from you?

A. There was a few of them sold, yes, sir.

XQ. 11. In selling the Dowagiac drills to the farmers did you not call attention to the general construction of the drill, such as the steel frame, the shape of the shoe, the angle at which it was hung, and other matters, as well as to the spring rod pressure device?

A. Yes, I did.

XQ. 12. You showed up the drill generally and dwelt on all of the good points you could think of, did you not?

O. Oh, yes.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 19. Were the Monitor drills to which you have referred shoe drills?

A. No, they were a double disc drill. In fact I handled them myself one year, the Monitor drill.

RDQ 20. To what extent was the Sucker State drill in competition, and state whether that was a disc or a shoe drill?

A. A shoe drill, I think, if I remember right. There was very few of them sold. I don't think there was over three or four of them sold.

RDQ. 21. Did you ever see that drill?

A. Yes.

RDQ. 22. Did you ever see it in operation?

A. No, I have seen them brought back after being in operation.

By Mr. Banning—

Q. 13. Did you ever see a Dowagiac drill along about 1888 or 1889 that had weights for pressing the shoes to the ground?

A. No, I never did.

By Mr. Bowman—

XQ. 14. Mr. Nelson, isn't it true that in the northwest territory that you are familiar with, a great deal depends on the agent, as to his selling drills, how long he has been in the territory and his acquaintanceship and such things as that?

A. Oh, I don't know. It has something to do with it probably.

XQ. 15. In buying an established agency didn't you figure that as a valuable part?

Mr. Chappell: Objected to as incompetent.

The objection was overruled and an exception noted.

A. Oh, yes, I certainly did.

(The signature of the witness in the presence of the Masters and Counsel is waived.)

R. B. BEESON, a witness, produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation?

A. My name is R. B. Beeson; my age is 56; I reside at Breckenridge, Minnesota; I buy and sell land.

Q. 2. What is your familiarity with seeding machinery?

A. Well, not a great deal, I rent all my land. Of course I have seen drills work.

Q. 3. What personal experience and observation have you had with shoe grain drills?

A. Well, last spring I had a personal experience. There was a renter of mine that came to me and had to buy a drill, and wanted to know what kind he should get; he was a newcomer in the country, and I told him that I thought most any of them was good as far as I knew, but I would go over to Wahpeton and find out what I could get; I found Mr. Horton there and he said that he had a drill that he could sell me, and I asked him what kind it was, and he said it was a Sucker State drill; I asked him if it was a good drill, and he said it was, and having had some dealings with Mr. Horton I advised him to go over and buy the drill, or look at it at least, and he done so——

Mr. Banning: As I understand he said this was last

spring, did he?

The Witness: Yes.

Mr. Banning: Then I desire to object to this testimony because of irrelevancy and immateriality, inasmuch as it related to something that transpired long after the period of infringement had ended.

The objection was overruled and an exception noted.

A. (Continuing). He went over and bought the machine and took it home, and in a couple of days came back and said he couldn't work it, and I went down to see the reason why he couldn't work it, and tried it myself; and it appeared to push the dirt and straw up in front of it; I tried it there for two or three hours and I couldn't work it, and I told him I thought he had better take it back, and he took it back and bought another machine, the Dowagiac, and took it down and I went down with him and it worked all right.

Q. 4. Was the Sucker State drill offered to you at a price the same as that of the Dowagiac, or for less money?

A. I think for less money, as Mr. Horton said that he had several on hand and he wanted to sell them.

Q. 5. What sort of spring pressure did the Sucker State have on the shoes?

A. It had a coil spring right on the back of the shoe.

CROSS EXAMINATION

By Mr. Banning—

XQ. 1. This Sucker State drill that your tenant bought last spring, had quite a long portion of the shoe dragging on the ground; did it not?

A. Well, I couldn't answer that question.

XQ. 2. Was the shoe hung so that it dragged simply on the heel of the shoe?

A. Well, I couldn't answer that question. I simply know there was a coil spring on the back of it, and that we couldn't use it on that account.

XQ. 3. Didn't you look at the position of the shoe to see why it was that it dragged the trash along in front of it?

A. Yes, sir, I looked at the drill, but I am not experienced enough in drills—I never paid very much attention to them, to know why it was.

XQ. 4. When you got the Dowagiac shoe you found it was so hung that it simply dragged on the heel of the shoe,

didn't you?

A. Well, I couldn't answer that. I didn't go into minuteness on the make of the machine, because I was only interested in getting my grain in; having a machine that would do it.

XQ. 5. Then you don't know why it was that this recent Sucker State drill acted so poorly, and dragged trash so badly, do you?

A. No, sir, only just what I inferred at the time, that I thought that there was a direct pressure on the heel of the shoe perhaps, but I didn't know.

XQ. 6. Does not the Dowagiac drill have the pressure directly on the heel of the shoe?

A. I think not, if my memory serves me right.

XQ. 7. It is a long rod pressure device, isn't it?

A. I think there is. The pressure is in front if my memory serves me right.

XQ. 8. Well, it is a long rod spring pressure?

A. I think so, yes, sir. I think the pressure is up on the front part of the shoe.

XQ. 9. And you think that that long rod device pressure is at the front of the shoe, do you?

A. Well, it run over the stubble. We didn't have to stop the team in order to relieve it of the stubble that had gathered in front.

XQ. 10. So you think it better to have the pressure at the front of the shoe than at the heel of the shoe, do you?

A. Well, I am only giving my experience as to what done the work and what didn't do it in the same ground. I could not give an intelligent opinion upon the construction of drills, because I know nothing particular about them.

(The signature of the witness in the presence of the Masters and Counsel is waived.)

ALFRED OLSON, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation?

A. My name is Alfred Olson; I was 45 years old the 11th of June, and I am living out here in the town of Kragness, on the Minnesota side; my occupation is a farmer.

Q. 2. Are you tilling your own farm now?

A. Yes, sir.

Q. 3. How long have you operated your own farm?

A. It will be ten years this fall, the 8th of October, since I started farming for myself.

Q. 4. What was your occupation before that?

A. Well, I was farming up here in Dakota on the Dalrymple farm before I started.

Q. 5. How long had you been on the Dalrymple?

A. I was there 15 years.

Q. 6. What were your duties while you were there?

A. I was foreman there. I run a crew of men.

Q. 7. You was foreman?

A. Yes.

Q. 8. What seeding machinery have you been familiar with; what did you know of first?

A. Oh, the first thing we had up there you know was all seeders; broadcast seeders. That was the first.

Q. 9. And then what was next?

A. Well, that was drills. We bought—well, there was one year he first bought two drills, and then we used them two or three days and then he went and got some more.

Q. 10. What make of drills were those?

A. Dowagiac.

Q. 11. What construction of drill were those; how were they made?

A. Well, they was those scalawag clumsy ones, with the wooden handles on, that they take and lift them out of gear and then they throw them back in again. You take them out of gear—the handles used to be great big wooden hand'es, and then when you put them in gear it was done you know.

Q. 12. How were the shoes forced into the ground; by what means?

A. There was a kind of flat spring when they first come out.

Q. 13. Then what next did you see in the way of a grain drill, and use?

A. Well, the next was the same make you know, Dowagiac drills, but they was made different; a good deal lighter and then different springs you know. These round springs then.

Q. 14. Did those operate all right?

A. Yes, sir.

Q. 15. Have any trouble with them in any way?

A. Not that I know of. I never had any trouble with them.

Q. 16. About how many of them were in use that you had charge of?

A. Well, I will tell you; I had charge of six drills, you know, that belonged to my division, but I had sometimes as high as 12 in the field when I was there, and sometimes they would send them from one division to help out another, you know. It was of course different. Sometimes a man had four, and sometimes have the work divided up so that your division had six drills, you know.

Q. 17. How many drills were there on the Dalrymple farm?

A. Well, I will tell you; there was ten divisions on the Dalrymple farm when I was up there; sometimes more and sometimes less. They used to have rented farms all over the country, and most generally he had ten divisions, you know that was open all summer when I was up there, nine and ten.

Q. 18. About how many drills would that call for?

A. Well, that would call for—we used to have six drills—well, it was altogether different, you know, but he had six drills mostly on each place, you know. Of course, there was some on the other outside farms that he had; probably not more than four. I don't exactly know, but anyway he must have had close to a hundred drills, anyway.

Q. 19. What drills are you using on your own farm?

A. I am using six.

Q. 20. Of what make?

A. Well, I have got five Dowagiacs and one Monitor.

Q. 21. What other drills have you used on your own farm besides the Dowagiacs?

A. Well, when I first started farming out there you know I bought the VanBrunt.

Q. 22. How long did you use the VanBrunt?

A. I think I used them a couple or three years, I guess, it was.

Q. 23. What did you do with them then?

A. Well, there was one drill that I bought. I didn't use only one year, one of the VanBrunts.

Q. 24. What did you do with them when you got through using them?

A. I traded them off to the Dowagiac.

Q. 25. Who did you trade them off to?

A. The Dowagiac people.

Q. 26. And what drills did you get then?

A. Dowagiacs.

Q. 27. Why did you prefer the Dowagiac to the Van Brunt?

A. Well, I will tell you; there was several reasons; I didn't like them, and again they didn't put the seed down in the ground even. That was the first thing. They used to be kind of hard to handle, you know, on account that the ground was loose and lots of stubble in the field, and they dragged the dirt ahead of them.

Q. 28. Did you have any trouble of that kind with the Dowagiac?

A. No, I never have. The Dowagiac will go through anything.

Q. 29. What did you do to make the Van Brunt work when it would draw stubb'e that way?

A. Well, you had to stop and clean it out. That was all you had to do, and then go ahead again. That is the only thing you could do.

Q. 30. How did you come into possession of the Monitor drill; did you buy that new?

A. No, I will tell you; I bought it of one of my neighbors this spring; in fact he died, you know, and then there was nobody left only—well, he had some relatives, you know, and they couldn't keep the farm, or anything, and so I bought his place out and I got a Dowagiac and a Monitor there on that place. Otherwise——

Q. 31. Have you operated the Monitor any?

A. Yes.

Q. 32. Is that a shoe drill?

A. Yes.

Q. 33. What kind of success did you have with it?

A. Well, I didn't seed much with it in the spring. I didn't like it. I couldn't get none of the men to drive it, you know, and I had to take my own boy to work it, because it used to bother so. This spring you know the ground was loose, anyway, and it used to float ahead of it. It was kind of—some way another the shoes were connected that way and the springs, that it didn't let up any at all. In the Dowagiac one shoe is independent from each other, and when she caught on a piece of stubble or anything, you know, it springs up and goes over.

Q. 34. And as I understand you, you couldn't get the Monitor to do that?

A. No, no, sir, you can't do it.

Q. 35. What would you do to get away from the trash in front of the shoes with the Monitor?

A. Well, I will tell you; he had to stop, and then either get in with his foot and scratch the stuff back, or else have some kind of a wooden thing or something to scratch it out and clean the stubble and stuff away from it, and then go ahead again. Then, by running it with light pressure, or not putting the seed in the ground too deep, why it would run a little better then, when you didn't put too much pressure on it.

Q. 36. When you traded the Van Brunts off to the Dowagiac company, was that an even trade or did you have to pay boot?

A. No. I traded for new Dowagiac drills, and they gave me $25 apiece for them, bran new ones, and they are standing up in Kragness at the station yet, I guess. They were never sold; never taken to Fargo yet. Nobody wants to buy them.

Q. 37. Your answer refers to the Dowagiac or the Van Brunt drills?

A. The VanBrunt. They are standing out there. You can see them yourself if you go up there, all standing by the railroad track.

CROSS EXAMINATION.

By Mr. Banning—

XQ. 1. In these Dowagiac drills the shoe is hung so that it drags on the heel of the shoe, doesn't it? Just the point of the heel on the ground?

A. Well, I will tell you; the farmer can adjust that himself.

XQ. 2. Well, that is the way they are adjusted to work, is it not?

A. No. I can get the whole shoe to run in the ground.

XQ. 3. Well, if you want to?

A. I can lengthen out my neck-yoke straps and let the tongue come down, and the whole shoe will run in. I can raise the neck-yoke straps up, and let it run on the heel if I want to.

XQ. 4. As a matter of fact you operate it on the heel, do you not?

A. Well, that depends on what kind of shape my ground is. In the spring when the ground is wet, you know, then

I can raise him up a little higher; when the ground gets a little drier, I let it down. It don't make any difference.

XQ. 5. In this Monitor drill that you have the shoe is not hung so as to draw simply on the point of the heel, is it?

A. Well, you can adjust that with the Monitor drill just the same thing.

XQ. 6. Well, how do you work it?

A. I work it the same as I do any other drill, but it didn't make any difference how I did work it.

XQ. 7. The shoe was not shaped the same as the Dowagiac shoe, was it?

A. Not quite, I don't think. No, I am sure it ain't shaped the same way.

XQ. 8. Not the same shape?

A. No.

XQ. 9. On this Dalrymple farm that you have told us about, was any kind of drills used except the Dowagiac drills?

A. Not on my division.

XQ. 10. Well, on any of the divisions?

A. Well, that I could not say. The divisions was quite far apart there. I couldn't tell you that. There was a good many divisions I never was on.

XQ. 11. You have told us that they had perhaps a hundred drills?

A. Yes.

XQ. 12. Altogether. Now, what kinds did you ever see?

A. Well, the only kind I ever see was the Dowagiac.

By Mr. Bowman—

XQ. 13. There is just one question. You have referred to the use of these Van Brunt drills on your farm; what years?

A. Well, I will tell you. The reason I preferred——

XQ. 14. Just wait a minute. My question is what years did you use it?

A. That was in—I bought one in 1896, in the spring.

XQ. 15. 1896?

A. 1896, in the spring.

XQ. 16. What year did you use them?

A. Used it in the spring of 1896 and 1897.

XQ. 17. And since that time you have not used any Van Brunts?

A. No, sir.

XQ. 18. When was it you used the Monitor?

A. Last spring.

XQ. 19. Just this last spring?

A. Yes, sir.

XQ. 20. You didn't use it any before?

A. No.

By Mr. Banning—

XQ. 21. When was it you sold these Van Brunt drills to the Dowagiac Company?

A. Well, I think it was in the spring of 1898 I traded them off.

XQ. 22. How many?

A. I traded off four of them.

XQ. 23. How did you come to have four?

A. I bought four.

XQ. 24. Did you use them?

A. You bet I did.

XQ. 25. How long?

A. Two years—one year. I didn't use them only one year.

XQ. 26. Before you traded them to the Dowagiac?

A. Yes, sir.

XQ. 27. How did you come to trade them to the Dowagiac Company; did they offer to trade?

A. No, sir.

XQ. 28. You wanted to buy the Dowagiacs, and they said they would take these VanBrunt drills as part payment, did they?

A. No, sir. I went in here and asked how they would trade me, and they didn't know; they would send a man out there to look at them, and the man come out and we didn't make the deal then, and then afterwards I was in town here again, and the man that come out there, he hadn't given any report to the company, and so they said they would send him out again. Well, it was pretty close to seeding time, you know, and when he came out the second time I traded with him.

XQ. 29. And you say these four drills have been there ever since 1898 at the station?

A. Yes, sir. There was a man up there, I guess, that was to sell them by the name of Olness. I think he was to sell them for the company, but I guess he hasn't sold any of them yet, as far as I know.

XQ. 30. How many VanBrunt drills did the Dowagiac

people put out of commission in that way, to your knowledge?

A. Well, I will tell you; I had for VanBrunts, and they put me out four Dowagiacs.

XQ. 31. Well, among your neighbors?

A. Among my neighbors? Well, I don't know. There is quite a number of Dowagiacs out there. I don't know how many. I could count up several farmers up there that have them.

XQ. 32. That have Dowagiacs?

A. Yes.

XQ. 33. You can count up a number of farmers also that have the VanBrunt or Monitor drills, can't you?

A. Well, one or two. There is only one farmer out there now I believe that has got them, and that is John Olness, and he is selling them.

XQ. 34. He is selling them; that is, he is selling these VanBrunt drills?

A. Yes.

XQ. 35. Sells them to who?

A. Sells them to anybody that wants to buy them.

XQ. 36. To the farmers?

A. Yes, sir.

XQ. 37. About how many has he sold?

A. Oh, I couldn't tell you that. I don't know his business. I ain't acquainted with his business. I don't know. He sold me four of them, I know that.

XQ. 38. You don't know how many he sold to other farmers?

A. No, I couldn't tell you that.

(The signature of the witness in the presence of the Masters and Counsel is waived.)

FRANK KIMM, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation.

A. Frank Kimm; residence, Kragness, Minnesota; occupation farming.

Q. 2. How long have you been farming?

A. Oh, I have farmed it here in the Valley since 1893.

Q. 3. 1883?

A. 1893 in the Valley, and 1883 in Southern Minnesota, I commenced farming.

Q. 4. With what grain drills are you familiar?

A. I have used the Dowagiac, VanBrunt, Havana and Hoosier. Using at present the VanBrunt and Dowagiac.

Q. 5. Which grain drill did you use first?

A. The first grain drill that I used was the VanBrunt.

Q. 6. Where did you use that?

A. I used that in Blue Earth County, Southern Minnesota.

Q. 7. How long did you use that drill?

A. Why, I believe I used that about four years when I came here.

Q. 8. What drill did you use after you came up to your present place?

A. I used the Dowagiac first.

Q. 9. Use any other after you had begun with the Dowagiac?

A. Yes, sir, I used—well, I had a Havana too; a Dowagiac and a Havana. Since then I have been using VanBrunts and Dowagiacs.

Q. 10. Do you find any objections to any of these drills? If so state what difficulties you had with any of them.

A. Well, they all have some points that I like and some that I don't. I always consider the shoe does its work better on the Dowagiac. Otherwise there ain't much difference. The Dowagiac seems to sow more uniform, and the shoe works better; seems to pass over obstructions uniform. What I call a floating shoe.

Q. 11. What troubles, if any, did you have with the VanBrunt? That was the first one you used?

A. Well, I didn't notice its faults so much, the first one I had, as I did since then when I come up here and had the two together, or three different kinds together.

Q. 12. Well, what faults did you notice then of the VanBrunt.

A. The VanBrunt shoe would not pass over trash like the Dowagiac. That was the main difficulty.

Q. 13. And in your judgment why would it not pass over the trash?

A. Well, one reason was the spring didn't seem to act quick; the coil spring would catch on the dirt, and it would hold it, and then the shoe also; I didn't think the shoe was shaped quite as good as on the Dowagiac.

Q. 14. What was the fault with the Havana drill?

A. Well, the Havana, one fault with that was that the shoes were in all in line; I thought that for that reason it would not pass over trash and straw as well as the Dowagiac.

Q. 15. Which was the easier to operate? The Dowagiac or the Havana?

A. Oh, the Dowagiac, much easier.

Q. 16. Very much easier.

A. Yes, sir, considerable. I always selected my best man to run the Havana.

Q. 17. How about the horse power required; which required the greater, the Havana or the Dowagiac?

A. Well, we always used six horses on the Havana and four on the Dowagiac.

Q. 18. What drills were the last that you purchased?

A. The Dowagiac.

Q. 19. Did you buy them for less money than you did the VanBrunt?

A. No, sir, paid more for them.

Q. 20. You purchased them on account of their superior merit, paying more money; is that so?

A. Well, I think the drills were selling for a little more money at that time, but I purchased them because I thought they were a better drill.

Q. 21. Which could you purchase for the least money; the Dowagiac or the VanBrunt?

A. Well, I didn't want a VanBrunt at that time. I don't think I talked trade with the company at all.

Q. 22. You didn't even go and find out the price of the VanBrunt then; is that right?

A. Yes, sir, that is right.

CROSS EXAMINATION.

By Mr. Bowman—

XQ. 1. When did you first use the VanBrunt in southern Minnesota?

A. That was along about 1888 or 1889 I think.

XQ. 2. If you used four years it was until 1892?

A. I came away from there in the spring of 1893, and used it up to that time.

XQ. 3. Between four and five years?

A. I wouldn't be sure. Four or five years, yes.

XQ. 4. Then after you came up here you first purchased Dowagiac shoe drills?

A. Yes, sir.

XQ. 5. At that time you had no preference for the Dowagiac shoe drills?

A. No, sir, I did not at that time. I didn't know anything about the Dowagiac only as I saw it on the platform standing there and took a liking to it.

XQ. 6. At what place was that that they had an agent?

A. It was here in Fargo.

XQ. 7. And then when was it you purchased the VanBrunts here in North Dakota after that?

A. Well, that was about—I think I have run these VanBrunts about 6 years. About 6 years ago I think I bought those VanBrunts.

XQ. 8. That is about 1900 or 1899?

A. Yes.

XQ. 9. That you purchased the Dowagiacs?

A. The VanBrunts.

XQ. 10. Then when before that had you purchased Dowagiacs up here; 1893 or 4?

A. 1893.

XQ. 11. You had run them six years?

A. Yes, sir.

XQ. 12. Then you purchased how many VanBrunts?

A. Three.

XQ. 13. That was in 1900?

A. But in the meantime the farm that I went on to had five Dowagiacs I was using, and one also that I purchased. I was using six Dowagiacs from in 1893 up to 1899.

XQ. 14. To 1899?

A. Yes.

XQ. 15. The farm that you were working on?

A. Yes, sir.

XQ. 16. Then in 1899 you purchased for your own use three VanBrunts?

A. Yes, sir.

XQ. 17. Did you work them with the Dowagiacs at that time?

A. Yes, sir.

XQ. 18. Dowagiacs that you owned or that were purchased for the farm that you worked on?

A. I owned one of them, and the others I had under contract; rented.

XQ. 19. You only owned one of the Dowagiacs?

A. Yes.

XQ. 20. In your last purchase of Dowagiacs, how many

did you purchase?

A. Two.

XQ. 21. So that in fact you owned three Dowagiacs and three VanBrunts of your own?

A. Yes.

XQ. 22. What is the greatest period of time you have run the VanBrunt shoe drill continuously under your direction and supervision?

A. I have run it—why, there was a period there from 1893 until about 1899, that I didn't have a VanBrunt.

XQ. 22 1-2. Did you run one of these Dowagiac drills yourself?

A. I didn't have any VanBrunts from 1893, until about 1899, when I purchased some more VanBrunts.

XQ. 23. What I was getting at was whether you yourself operated one particular Dowagiac, or different ones of the six, or how?

A. Well, no. I had to look after their workings in the field.

XQ. 23 1-2. You didn't operate them?

A. I didn't operate them myself, that is not up there. I did operate the VanBrunt below, but I have been working in the same field, and been right with them right along.

By Mr. Banning—

XQ. 24. Do you have a Havana drill also at the present time?

A. No, sir, not at present.

XQ. 25. When did you have that?

A. Why, I had that from 1893 until 1898, or 9, when I bought those VanBrunts.

XQ. 26. As I understand you you are still using those VanBrunts?

A. Yes, sir.

XQ. 27. The shoe on the VanBrunt is of a different shape from what it is on the Dowagiac, is it not?

A. Yes, it is a little different.

XQ. 28. The Dowagiac shoe is hung so as to draw on the heel of the shoe, is it not?

A. Why, yes, it seems to draw a little more on the heel, or there is more heel to it, or something, than there is in the VanBrunt.

XQ. 29. How is is with the VanBrunt?

A. Why, the VanBrunt is made so you can adjust it to run

on the heel the same as the Dowagiac if you want to, and we have a lever, but the ground has to be very clean or it will push everything ahead.

XQ. 30. What kind of drills do your neighbors use?

A. Why, there is all kinds out there. The majority of them I think are Dowagiacs.

XQ. 31. Some VanBrunts and some other kinds with coil springs on them?

A. Yes, sir.

XQ. 32. For pressing the shoe to the ground?

A. Yes, sir.

XQ. 33. When you bought these three VanBrunts along about 1899, about how much did you have to pay for them?

A. I paid $80 apiece for them.

XQ. 34. And about what did you pay for the Dowagiacs?

A. Let me see; the first Dowagiac I bought I paid $130 for I think it was.

XQ. 35. That was about 1893?

A. Yes, and the last two I bought—let me see; I traded a new Hoosier, and about $80 I think it was. I think it was $160, and give them a new Hoosier that hadn't been run.

XQ. 36. That is, $160 for the three?

A. For the two—no, I bought two VanBrunts last, or Dowagiacs. I traded in the Hoosier and give about—I think it was $160 to boot for the two.

XQ. 37. For the two?

A. Yes, sir.

XQ. 38. What did you pay for the first VanBrunt that you had?

A. That was a three horse drill. I don't remember. That was a good while ago. I don't remember.

XQ. 39. Do you remember what shoe it was?

A. It was a 16 or 17. 17 I think.

XQ. 40. Did you get that for $80?

A. No, sir, I think I paid $100 and something for that.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 23. What size VanBrunt did you pay $80 for?

A. Why, it was a 20 shoe.

RDQ. 24. What size Dowagiacs did you buy, and what price did you pay for those when you paid the cash?

A. The 20 shoe, and I give $160 and this Hoosier drill.

RDQ. 25. What was the cash price of the Dowagiacs, if you remember?

A. I believe they claimed $110 or $115.

RDQ. 26. I think you remarked that you operated a Dowagiac shoe drill and VanBrunt shoe drill in the same field side by side?

A. Yes, sir.

RDQ. 27. Did you have the same trouble with both of them at the same time?

A. Why, yes. That seemed to be the trouble with all of them; they wouldn't clear as well as the Dowagiac.

RDQ. 28. That is, the VanBrunt would clog up and the Dowagiac would keep clear?

A. Yes, sir. The Dowagiac followed the depressions in the ground better; dropped into dead furrows. The VanBrunt lots of times would go over before it would drop. The spring would rub on those posts that they were setting on and didn't act as quick as the Dowagiac.

(The signature of the witness in the presence of the Masters and Counsel is waived).

THOMAS GEE, a witness produced, sworn and examined on behalf of the complainant, in answer to questions by Mr. Chappell deposed and testified as follows:

Q. 1. State your name, age, residence and occupation.

A. Thomas Gee; my age is 44; I am a farmer; residence Kragness, Minnesota.

Q. 2. What is your familiarity with seeding machinery and seeding generally?

A. Well, we use drills nowadays, sir. Shoe drills. I have always used them for the last number of years.

Q. 3. What did you use before that?

A. I used to have broadcast seeders in the former days.

Q. 4. How long have you been in this region as a farmer?

A. 23 years.

Q. 5. What was the first shoe drill with which you became familiar?

A. I think I first bought a Buckeye, sir.

Q. 6. What sort of spring pressure did that Buckeye drill have?

A. It has a coil spring, sir, right behind the shoe.

Q. 7. How long did you continue to use the Buckeye?

A. I ain't sure, but I must have used it around ten years or so.

Q. 8. What did you use after that?

A. I bought a Dowagiac, sir.

Q. 9. Please state how you came to discontinue the use of the Buckeye and take up the use of the Dowagiac?

A. Well, the Buckeye, sir,—it run harder; wasn't so easy, and I noticed my neighbors most all of them had Dowagiacs, and they seemed to run easier; they would do nicer, smoother work; on uneven ground they did much nicer work, I noticed that and so—my Buckeye drill was in good shape yet, it wasn't because it was worn out, but it run heavier and didn't do so nice work, and more so in mud-would at all. So I had trouble with it that way and so I bought a Dowagiac.

Q. 10. Have you any trouble with it about trash?

A. Yes, in trash, you couldn't put any pressure on it at all, because it seemed to be more dead. The Buckeye is more pliable; it floats more over trash, and it would run over it much quicker than the Buckeye will.

Q. 11. You spoke first of the Buckeye; I guess you meant the Dowagiac would run over it better than the Buckeye?

A. I meant the Dowagiacs would ride over it better, yes.

Q. 12. How large a farm have you?

A. I have three quarters of a section of my own, sir, and I have been renting an adjoining farm.

Q. 13. Why don't you think the Dowagiac operates better than the Buckeye; what feature of the Dowagiac do you think is better?

A. It must be owing to the spring that you can put more pressure on the Dowagiac shoe; the spring is more pliable, and it will go up and down more easy than the Buckeye. The Buckeye, as I said you couldn't put any pressure on it at all.

Q. 14. And your reason for buying the Dowagiac then is what?

A. It was a good deal on that account, sir. Principally I might say through that.

CROSS EXAMINATION.

By Mr. Banning—

XQ. 1. Did you ever use any other kind of shoe drill except the Buckeye and the Dowagiac?

A. No, sir, I didn't never have any other kind of a drill myself.

XQ. 2. How many Dowagiac drills have you got?

A. I have only got one, sir.

XQ. 3. When did you buy that?

A. I bought that—I have used it now three springs sir.

XQ. 4. What kind of shoe drills do your neighbors have?

A. They have principally Dowagiacs, sir.

XQ. 5. What other kinds do some of them have?

A. Well, there is some—they have a green box drill; I think they must be the Davis; VanBrunt & Davis.

XQ. 6. The VanBrunt you mean?

A. That is the name of it, I think sir. There is some of them, but the most of them people have done away with them and bought Dowagiacs, because they would seed evener on uneven ground.

XQ. 7. Did they wear them out in use?

A. No, sir, they was not worn out altogether. I think they could be used, the most of them, although I couldn't swear about that.

XQ. 8. Not certain whether they were worn out?

A. No, sir, not certain.

XQ. 9. Or whether they simply discarded them?

A. No, sir.

XQ. 10. Are there many disc drills used among your neighbors?

A. No, sir. I know one neighbor who has one, but there isn't but very few of them. They are mostly shoe drills around us sir.

XQ. 11. The Buckeye drill that you used for some ten years had a shoe different in shape from what the Dowagiac drill has, did it not?

A. Not much different, no, sir.

XQ. 12. Did it scour as well going through the ground?

A. Why, no, it didn't scour as well. It would not scour as well for the reason that it run more deader, sir. The Dowagiac scours better because it wears more as it travels. It having more motion it scours better.

XQ. 13. The Dowagiac shoe is made of what is called plow steel, is it not?

A. I couldn't be sure about that.

XQ. 14. It scours much better?

A. It scours, oh, yes. It has a nice polish on it.

XQ. 15. The other one did not have such a polish on it?

A. Oh, yes, it had a good polish on it when you got it bright. After you used it quite a time it was. When you got onto soddy ground it would scour.

(The signature of the witness in the presence of the Masters and Counsel is waived).

JOHN BACKSTRUM, a witness produced, sworn and examined on behalf of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state your name, age, residence and occupation-

A. My age is 44 years next fall; my birth place is in Sweden; I am a farmer in Clay County, Minnesota, Town of Kragness.

Q. 2. How long have you been a farmer at Kragness?

A. I have been a farmer for ten years; since 1895, in the spring.

Q. 3. What grain drills have you used as a farmer?

A. The first one I bought a Hoosier drill.

Q. 4. How long did you use it?

A. I used it eight years.

Q. 5. Then what drill did you use?

A. I used the Dowagiac drill.

Q. 6. What kind of spring pressure did the Hoosier have that you used?

A. It was a coil spring pressure it had.

Q. 7. Why did you change from the Hoosier to the Dowagiac?

A. The Dowagiac covered the seed better; when they come in a low place the Hoosier didn't cover the seed at all.

Q. 8. Did you have any trouble with trash with either of these drills?

A. No. When I had the Hoosier drill, when there was a lump of dirt ahead of a shoe and the shoe hit it, it would drop the seed behind and in front. It didn't cover, and on the Dowagiac drill the shoe wou'd split the lump of dirt and go

on the same as the rest of the shoes.

Q. 9. What feature of the Dowagiac drill enabled it to do that, do you think?

A. Oh, I think it was the spring that would do that.

CROSS EXAMINATION

By Mr. Banning—

XQ. 1. When did you quit using the Hoosier drill?

A. Two years ago this spring.

XQ. 2. It was worn out then, wasn't it?

A. No, just as good to-day. I sharpened the shoes up on the Hoosier drill a little, and then I went to work and traded it away for a Dowagiac drill, The drill choked up sometimes; the Hoosier drill.

XQ. 3. You sharpened up the shoes on the Hoosier drill and traded it on the Dowagiac drill, did you?

A. Yes, I did.

XQ. 4. What did you pay for the Dowagiac drill to boot?

A. I paid $80 to boot.

XQ. 5. What kind of shoe drills did your neighbors have?

A. Some of them have Kentucky disc drills.

XQ. 6. What kind of shoe drills do your neighbors have?

A. Oh, shoe drills. There is a Kentucky shoe drill one of them has.

XQ. 7. Any VanBrunt shoe drills among your neighbors?

A. Yes, some of them have bought two last spring.

XQ. 8. You say the Dowagiac shoe would cut through a clod or lump of dirt?

A. Yes, sir.

XQ. 9. Was not the bottom of the Dowagiac shoe sharp like a knife.

A. Not quite.

XQ. 10. It was pretty sharp wasn't it?

A. Yes, it was pretty sharp, but not quite like a knife.

XQ. 11. And the Dowagiac shoe was hung so that just the point of the heel ran through the ground, was it not?

A. Yes, sir. It did good work, the Dowagiac did, on my ground. It suited me.

(The signature of the witness in the presence of the Masters and Counsel was waived.)

AXEL ANDERSON, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation?
A. Alex M. Anderson; age 46; residence Fargo, North Dakota; occupation salesman and collector for the Dowagiac Manufacturing Co.

Q. 2. How long have you been familiar with seeding machinery?

A. Since 1890.

Q. 3. How long have you lived in this region?

A. Since 1879.

Q. 4. Do you know what sort of seeding machinery was used prior to 1890?

A. Seeders, and a few drills.

Q. 5. What was the first shoe drill with which you became familiar?

A. The Monitor.

Q. 6. In what way did you become familiar with the Monitor?

A. I sold them; worked on a salary for them one spring.

Q. 7. How long a time?

A. Well, it was just through the season; I presume three months perhaps.

Q. 8. Of what year?

A. 1890.

Q. 9. What construction of drill was that, particularly as to the spring pressures?

A. They had a coil spring pressure.

Q. 10. How long was it on the market after you had been engaged in selling it?

A. It was on the market yet.

Q. 11. The shoe drill?

A. Well, I suppose they sell them in some localities. Up here they don't sell them any more to my knowledge. They sell the double disc now. I presume they are still manufacturing them, although I have not seen any of them lately.

Q. 12. They don't use them in this region any more?

A. No.

Q. 13. When did you become familiar with the Dowagiac shoe drill?

A. In 1891.

Q. 14. What part of that year?

A. In the fall; I commenced to work for them in the fall

of 1891, the first of October.

Q. 15. Why did you go to work for the Dowagiac comapny?

A. First in the fall in 1891 I went to work for them at Forest River in North Dakota.

Q. 16. I said why did you go to work for them?

A. Oh, why. Well, they hired me.

Q. 17. What were your duties at first?

A. Collecting.

Q. 18. And after that?

A. Salesman.

Q. 19. Did you sell to the trade or to the farmers?

A. Mostly to the farmers.

Q. 20. Please state the kind of shoe drill of the Dowagiac make you first sold to the farmers, and whether any changes were made in it afterwards?

A. The first Dowagiac shoe drill I sold to the farmers was the first rod spring pressure we had, which was later on changed.

Q. 21. But it was still a rod spring pressure after it was changed?

A. Yes. They made the change in 1892.

Q. 22. In showing up the Dowagiac shoe drills to the farmers what course did you pursue?

A. The first years—of course we would show them the drill, but the first years we talked two things; the first years that I worked for them; at that time there were several shoe drills, all competitors, who used an open shoe. We used a closed shoe. Later on, when all the rest of the competitors adopted our store, what we called our shoe, because we were the first ones that had it, then we talked nothing but spring pressure. That was our main talk about it.

Q. 23. The two things that you talked then were the shoes and the spring pressure at first?

A. Yes.

Q. 24. What would you do in showing up the drill to the farmers?

A. Oh, we generally put the pressure on them, and showed them where the pressure was applied, how it affected the heel of the shoe, and the drop that the boot had—the shoe had to adapt itself to the uneveness of the ground, which no other drill but ours had at that time.

Q. 25. Please state the different places at which you have acted as salesman in selling drills to the farmers?

A. Fargo, Langdon, Hallock, Minn., Stephen, Minn.,

Graceville, Minn., Audubon, Minn., and in Indian Territory —do you want that?

Q. 26. Just indicate that in a general way.

A. Kansas City; what we call the Kansas City territory. There was ten or fifteen different places down there.

Q. 27. What sizes of drills were sold principally in the Kansas City territory?

A. Small ones. I sold one large drill there.

Q. 28. Did you go to those different places and establish selling agencies for the Dowagiac company, or go and help their local agent?

A. Go and help their local agents mostly.

Q. 29. About how many shoe drills do you think you have sold personally for the Dowagiac Manufacturing Co?

A. Oh, I couldn't tell.

Q. 30. To the farmers?

A. Oh, probably a thousand. I wouldn't say for sure. Might be more, might be less.

Q. 31. Do you remember Mr. Clarence Patterson?

A. Yes, sir.

Q. 32. What were his duties?

A. I worked with him here in Fargo in 1891, or 1892, I forget which. I was a salesman canvassing out here and taking orders from farmers, and he was a repair man. He was shipping out repairs to agents, receiving goods, unloading goods out of cars and re-shipping goods locally. That was his duties.

Q. 33. Did he have anything to do with making sales that you know of?

A. I don't think he ever made a sale in his life. I don't know, but I don't think he ever did.

Q. 34. How old a man was he at that time?

A. Well, Clarence at that time was a young man. He wasn't married yet. I don't think he was more than of age, if he was of age.

Q. 35. Was he the manager in any way as far as being over you as salesman?

A. Here at Fargo?

Q. 36. Yes.

A. No, sir.

Q. 37. Do you know what wages he drew?

A. Well, I don't know. I knew he didn't draw as much as I did.

Q. 38. Have you in making sales of the Dowagiac drills ever come in competition with the McSherry shoe drill?

A. Yes, sir.

Q. 39. State where and any circumstances about that.

A. Well, there was a little bit of competition with them, but not to speak of, at Valley City one year. Then I was in competition with them once at Langdon, North Dakota; I was quite a bit in competition, a good deal in competition with them one spring at Graceville, Minn. They were our strongest competitor at Graceville.

Q. 40. Have you ever come in competition with the Kentucky shoe drills directly?

A. Yes, sir.

Q. 41. Just indicate what places.

A. Well, where I had the strongest competition with them was at Hallock, Minn., and Langdon, North Dakota.

Q. 42. In your judgment if they hadn't been selling in this territory do you think the Dowagiac would have sold drills where they succeeded in selling them?

A. I suppose they would. I think they would, yes. I wish to take that back about Hallock, Minn., if you please. I don't remember whether I was in competition with the Kentucky at Hallock, come to think of it. I would not say for sure.

Q. 43. Are you familar with the VanBrunt drill?

A. Yes, sir.

Q. 44. Did you come into direct competition with that very much?

A. Yes, some.

Q. 45. What were the circumstances of that competition, so far as you were selling to farmers?

A. The only place that I was in strong competition with them was at Audubon, Minn. I sold the Dowagiac there one year, and the VanBrunt had a very strong man at Lake Park who was representing them, and Lake Park and Audubon are very close together, and they used to come down in there. However, I succeeded in selling all the drills that were sold at Audubon that spring, tributary to Audubon, but they were there canvassing all the time.

Q. 46. Did you find any considerable number of farmers who were desirous of purchasing drills having the VanBrunt features?

A. No, not unless they bought them cheaper. That would be the only object.

Q. 47. Which was sold for the higher price, the Dowagiac or the VanBrunt to the farmers?

A. As a general rule you mean?

Q. 48. Yes.
A. My observation was that the Dowagiac was.

CROSS EXAMINATION

By Mr. Banning—

XQ. 1. Don't you remember about Mr. Patterson going to various points in February and March, 1891?

A. I don't think he left the warehouse, to my knowledge unless he done it while I was out. I used to be out a week at a time.

XQ. 2. Weren't you often out more than a week at a time?

A. Not when I was canvassing out of Fargo. I always got home every Sunday. Got home every Saturday.

XQ. 3. Well, how was it in February and March, 1892?

A. In 1892, I did it—you mean in regard to Patterson?

XQ. 4. Yes.

A. Well, I canvassed out of here that year the same way.

XQ. 5. Didn't he go to various points?

A. No.

XQ. 6. During those months?

A. Not to my knowledge.

XQ. 7. As you recollect?

A. No, not to my knowledge. He may have gone when I was away.

XQ. 8. What sizes of Dowagiac drills were sold up in this northwest territory?

A. At what time?

XQ. 9. Since your connection with them.

A. When we first started in, in 1891 and 2, we sold mostly 17 shoes. Later on we have sold almost exclusively 20's and 22's.

XQ. 10. What was the least size ever sold up here since your connection with the Dowagiac company?

A. 13 shoe.

XQ. 11. Did you sell many of those?

A. No.

XQ. 12. About how many?

A. Oh, it wouldn't average 1 to 50, I don't think.

XQ. 13. Only a few of them?

A. A very few.

XQ. 14. Name all the kinds of shoe drills that you sold

Dowagiac drills in competition with here in the northwest territory.

A. The Monitor, Buckeye, Hoosier, VanBrunt, Havana, McSherry, Peoria, Tiger, Sucker State, Superior and Kentucky.

XQ. 15. With the exception of the McSherry, Peoria, and Kentucky, these various drills had coil spring pressure devices for the shoes, did they not?

A. Yes, except the Havana.

XQ. 16. Yes. The Havana was what is called a press drill, I believe.

A. Yes, sir, but it was a shoe; shoe press.

XQ. 17. Weren't there a good many of these various kinds of shoe drills, in the aggregate, sold in the northwest territory, according to your observation?

A. Of the coil spring pattern?

XQ. 18. Yes.

A. Yes, there was.

XQ. 19. You have spoken about meeting the McSherry shoe drill in competition at Greeneville?

A. Yes, sir.

XQ. 20. Who was the agent there?

A. For the McSherry?

XQ. 21. Yes.

A. His name at that time was O'Neill. I believe it was O'Neill.

XQ. 22. As a matter of fact didn't O'Neill send back all of the McSherry shoe drills that he bought?

A. Yes, for that season—that hurt us just the same, because it wasn't discovered—farmers didn't know anything about that until after the season was over.

XQ. 23. Were a great many of the McSherry shoe drills that O'Neill bought and shipped to put out there stayed sold, did they?

A. Well, I don't know. There might have been some of them. I heard that they were returned. Whether they were all returned or not I don't know. I heard of it afterwards. After the season was over.

XQ. 24. Do you know what was the matter with them?

A. No, I didn't. I understood that it was something in the feed.

XQ. 25. Wasn't it something about the shoe?

A. I wouldn't say. I don't know as to that, except our agent Mr. [illegible] said it was in the feed. He was up here afterward.

XQ. 26. Your understanding then was that it was some fault with the feed?

A. Yes.

XQ. 27. The Dowagiac Company sold no shoe drills in the northwest territory, so far as you know, that had the split or open shoes, did they?

A. I never did. If they did I don't know anything about it. I never sold one in my life.

XQ. 28. They were solid shoes?

A. Yes, sir, solid shoes.

XQ. 29. With a sharp under edge?

A. Yes, sir.

XQ. 30. Made of plow steel?

A. Yes, sir.

XQ. 31. And were mounted to ride on the point of the heel, were they not?

A. Ride on the heel, yes, sir.

XQ. 32. In these respects the Dowagiac shoes differed from the shoes of most of the other shoe drills, did they not?

A. Until later, when the Monitor or VanBrunt made one just similar.

XQ. 33. About how long ago was that?

A. I don't know when they first put that out. I know I seen it in 1895, I think it was, when I was at Stephen, Minn.

XQ. 34. About how many McSherry shoe drills did you know of being sold in the northwest territory?

A. Well, the only three places that I recollect are Graceville, Valley City and Langdon, but I don't know how many were sold at those last two places. At Valley City, however, ther was very few.

XQ. 35. What year were those that you knew of?

A. Well, Langdon I was there in 1899, and at Graceville, I don't remember what year I was there. I was at Graceville only in the winter. I wasn't there during seeding; during delivery. I was canvassing, taking orders.

XQ. 36. How did the prices of these coil spring pressure shoe drills compare with the price of the Dowagiac shoe drills.

A. Always lower.

XQ. 37. There are always a good many farmers with whom price is a controlling consideration, are there not?

A. Yes, sir, you bet.

By Mr. Bowman—

XQ. 38. You have referred to a strong man as a competitor at Lake Park?

A. Yes, sir.

XQ. 39. Was that Mr. Snell?

A. Snell, yes. Snell brothers.

XQ. 40. They had an established agency there?

A. Yes, sir.

XQ. 41. Been there for a good many years, had they not?

A. Yes.

XQ. 42. Do you want the Court to understand that in 1895, you quit talking everything about the Dowagiac drill except the spring?

A. Oh, we talked general construction, but that was the main thing that we differed from the rest of them.

XQ. 43. You talked the main point of difference, which was on the spring?

A. Yes.

XQ. 44. Without you particularly referred to the Van-Brunt, which had adopted your closed or solid shoe?

A. Yes. We could't make any point on that as long as they had the same shoe that we had.

By Mr. Banning—

XQ. 45. What years was it that the Dowagiac company ran short of shoe drills up here to supply the trade?

A. That in 1892. We sold 260 and some odd here. Right here locally.

XQ. 46. Don't you remember about 1897 and 1898?

A. I remember about 1897, yes.

XQ. 47. They ran short that year too, didn't they?

A. No, that I remember of.

XQ. 48. You don't remember that?

A. No.

By Mr. Bowman—

XQ. 49. Do you remember the year when they introduced this red pressure device?

A. Yes, sir.

XQ. 50. What season was it?

A. The first ones that came were in 1891. We had some trouble with them, not with the spring, but with the clamp that holds the spring, and in 1892, we changed it.

XQ. 51. And that 1892 structure is the one that you sell to-day?

A. Sell, to-day. It has not been changed a particle.

XQ. 52. That was the first introduced in the season of 1892?

A. 1892, yes.

XQ. 53. Do you remember how the price of the Dowagiac in 1892, compared with the price in 1891.

A. You mean locally to the farmers?

XQ. 54. Well, yes, locally.

A. Well, it was about the same. I guess there wasn't much difference.

XQ. 55. How about the dealer?

A. Well, I hadn't any experience with the dealer then. At that time.

XQ. 56. As a matter of fact you didn't add anything onto the price of the drill by reason of this spring?

A. No.

By Mr. Banning—

XQ. 57. Did you mean to say that you sold, yourself, personally to probably a thousand different farmers?

A. Oh, no, not to a thousand different farmers. I sold as high as 22 drills to one farmer.

XQ. 58. Why didn't you sell a greater number of 13 shoe drills than you have mentioned?

A. They don't use any two-horse machinery in this country to speak of.

XQ. 59. The demand for your Dowagiac drills ran in the larger sizes than 13's, did it?

A. Yes, sir.

RE-DIRECT EXAMINATION.

By Mr. Chappell—

RDQ. 49. Have you ever tried to sell in the region right around Lake Park?

A. Yes, sir.

RDQ. 50. What did you find was the attitude of the farmers there?

A. Why, the VanBrunt was the only drill up to 1897, that was the year I was there, that had been sold there. We got an agent there in 1897 by the name of Chiel and Anderson.

RDQ. 51. What features did the farmers there seem

to demand in a grain drill?

A. Why, we sold pretty near all the drills that was sold there that year when I was there.

By Mr. Bowman—

XQ. 60. How long did you stay there?

A. Well, I stayed there—it was that year we had the big snow, and we used to travel afoot; canvass afoot .

XQ. 61. My question is how long did you stay there?

A. Oh, I stayed there probably three months.

XQ. 62. How long?

A. Probably three months.

XQ. 63. How long did your agency stay there?

A. Oh, they have had an agency there for years after that.

XQ. 64. Kept it right along there?

A. How long I don't know. I have not been with the Dowagiac for four years lately. I don't know much about their agencies. There was an intermission of four years.

XQ. 65. Did you find out that Mr. Snell that year was not energetic?

A. Yes, he canvassed the same as we did.

XQ. 66. He has testified that he has had that trade pretty much himself; have you any reason to doubt his word about it?

A. I have as far as 1897 is concerned, and 1893.

XQ. 67. Excepting those years?

A. Excepting those years I don't know nothing about it.

(The signature of the witness in the presence of the Masters and Counsel is waived).

EDWARD S. BLAKE, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. State your name, age, residence and occupation.

A. My name is Edward S. Blake; I reside in Fargo; occupation retail implement business; age 44 years.

Q. 2. How long have you been engaged in the retail implement business?

A. Since 1898; the spring of 1898.

Q. 3. What is your relation to the Dowagiac Manufacturing Co. now?

A. I am renting their warehouse here and selling their goods and doing their transfer work here.

Q. 4. How long have you lived in this region?

A. Since 1888.

Q. 5. When did you first become familiar with seeding machinery from a commercial standpoint?

A. In the spring of 1899. I commenced selling it.

Q. 6. What grain drills did you sell at that time?

A. I sold the Hoosier.

Q. 7. Have you sold any others since then?

A. Sold a few of the Fountain City drills.

Q. 8. And have you sold any of the Dowagiac shoe drills?

A. Sold the Dowagiac shoe drills in 1905.

Q. 9. While you were handling the Hoosier shoe drill and the Fountain City shoe drill what was your principal competition in shoe drills?

A. The Dowagiac.

Q. 10. What did you regard as the important feature of the Dowagiac that enabled it to compete?

A. Their pressure spring, one of the principal things.

Q. 11. What did you do to meet the competition?

A. The Hoosier drill had a spring similar, and I of course used that as an argument, that I had as good a pressure spring as the Dowagiac.

Q. 12. To what extent did you handle the Fountain

A. I only sold two of them.

Q. 13. What sort of spring pressure device did that have on the shoes?

A. They had a coil spring.

Q. 14. Did you sell that for the same price as the Dowagiac or the Hoosier for less money?

A. I sold it for less money.

Q. 15. What was the principal competition that you had as far as the Fountain City was concerned?

A. At that time the Dowagiac, in shoe drills, was about the only competition.

CROSS EXAMINATION.

By Mr. Banning—

XQ. 1. About how many Hoosier drills did you sell?

A. In the shoe drills or altogether, disc and shoe both?

XQ. 2. Shoe drills?

A. I think I sold about 25 or 30. It would be hard for me to say exactly.

XQ. 3. Did they have a coil spring pressure device for the shoes?

A. No, sir, they had a long spring, similar or some like the Dowagiac spring; more like the old one that the Dowagiac first put out.

XQ. 4. What other kinds of shoe drills were on the market here in the northwest in competition with the Dowagiac during your experience in selling shoe drills?

A. The Monitor and the VanBrunt & Wilkins and Kentucky and I think some Superiors.

XQ. 5. These were provided with coil spring pressure for the shoes, were they?

A. Some of them were.

XQ. 6. All these shoe drills had their friends and advocates in the territory here, did they not?

A. Well, most of them did, although in my experience I didn't have very much opposition with any of those drills.

XQ. 7. Were you selling in the territory where they were?

A. Yes, sir, selling right here in Fargo.

XQ. 8. Well, you found people who preferred them, did you not?

A. No, I don't think I have ever had anyone talk that way.

XQ. 9. Well, you found people who bought them, did you not?

A. There were people who bought them, yes, sir.

XQ. 10. Do you know what reasons influenced them in buying the VanBrunt and these other coil spring pressure shoe drills?

A. I don't think there many Van Brunt sold at that time. I don't know what the reasons were altogether.

XQ. 11. You don't know what?

A. The Monitor has always had some trade here. I never come in competition with them.

XQ. 12. Well, you don't know what reasons they had for buying them then?

A. No, sir, I don't.

XQ. 13. How long since you have been selling the Dowagiac shoe drills?

A. Only this year, 1905.

By Mr. Bowman—

XQ. 14. You were familiar with the Dowagiac shoe drill in 1899, and subsequent years?

A. Yes, sir.

XQ. 15. When was it they got out their cheap drill called the Michigan drill, and do you speak of that as the Dowagiac drill?

A. No, sir. I don't think they have ever had much trade on the Michigan drill here. I never heard very much about it. I know they had such a drill.

XQ. 16. It had the same spring pressure, didn't it, as the Dowagiac?

A. Yes, sir.

XQ. 17. Was it as good?

A. I don't know. I never saw one run.

XQ. 18. In your trade do you know how it was considered?

A. No, I don't know.

XQ. 20. They so'd them cheaper?

A. I think they did. Now I am not very well posted on the Michigan drill..

XQ. 21. That is what I wanted to find out, how well posted you were on the Dowagiac or Michigan drill. Now the Hoosier drill; do you consider yourself posted on that drill?

A. Well, I sold quite a good many of them.

XQ. 22. The spring pressure on that was regarded about the same as the Dowagiac?

A. Except the people who used the Dowagiac claimed it was not as flexible. With that exception.

XQ. 23. Well, was there any material difference?

A. It was shorter than the Dowagiac.

XQ. 24. Shorter?

A. Shorter than the Dowagiac spring, and hung a little differently.

XQ. 25. The shoe was hung a little differently?

A. Yes, sir.

XQ. 26. Tilted a little differently?

A. They tried to tilt them about the same evidentally.

XQ. 27. You first as I understood you said they were tilted a litt'e differently?

A. No, I said they hung a little different, and a litt'e more complicated.

XQ. 28. In the connections?

A. Yes, more bolts and other parts.

XQ. 29. How about the shape of the shoe?

A. The shape of the shoe was similar. I couldn't state exactly the shape.

XQ. 30. How about whether it was solid or not like the

XQ. 31. A solid shoe?

Dowagiac?

A. Yes, sir, it was a solid shoe like the Dowagiac.

a contract to do their transfer business; also a contract last

A. Yes, sir.

XQ. 32. And you found with that you could sell about 30 Hoosier drills?

A. Well, that was in several years that I sold them. I think I sold about 20; somewhere between 20 and 30.

XQ. 33. You are now identified with the Dowagiac Company in doing their warehouse work?

A. The only contract, I rent their warehouse and have

XQ. 37. There are always a good many farmers when year to sell their goods.

XQ. 34. Here at Fargo?

A. Yes, sir, locally.

XQ. 35. Do you have any competition?

A. I don't think there is any competition in the shoe drills now at all.

XQ. 36. People all prefer the Dowagiac?

A. I don't know about that. They most of them prefer a disc drill.

XQ. 37. How about the shoe drills?

A. I sell some shoe drills to people who have used them—

XQ. 38. And some people you don't?

A. Most people use disc drills.

RE-DIRECT EXAMINATION

By Mr. Chappell—

RDQ. 16. The Monitor drill to which you have referred in your testimony, was that a shoe drill or a disc drill?

A. The Monitor I think was a shoe drill.

RDQ. 17. Where did you see Monitor shoe drills on sale?

A. They sold them here several years ago when I first started here.

RDQ. 18. Since 1898 you mean?

A. Yes, sir. In 1898 and '99 they sold some shoe drills.

RDQ. 19. Here locally you mean?

A. They had samples set up and I think they sold some. I don't know whether they sold any shoe drills or not.

(The signature of the witness in the presence of the Masters and Counsel was waived).

The further taking of testimony in these causes was here adjourned until 7:30 p. m.

Wednesday, October 4th, 1905, 7:30 o'clock p. m. Met pursuant to adjournment, present as before.

AMUND K. TWEETO, a witness produced, sworn and examined on the part of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Please state you name, age, residence and occupation?

A. My name is A. K. Tweeto; residence Abercrombie, N. D.; my occupation now, one branch is machinery.

Q. 2. Farm machinery?

A. Farm machinery.

Q. 3. Your age?

A. 46.

Q. 4. How long has farm machinery been your business?

A. Since 1890.

Q. 5. What was your occupation before that?

A. Well, I was farming and I also had been in a hotel there.

Q. 6. In your early experience how was seeding done; by what sort of machines, if any?

A. Well, you mean when I first come to this country?

Q. 7. Yes.

A. Well, when I very first come to this country we used seeders.

Q. 8. When did you first become familiar with shoe drills?

A. In 1890.

Q. 9. What drill was that that you saw then?

A. Well, there was the Tiger and VanBrunt I guess.

Q. 10. When did you become familiar with the Dowagiac shoe drill?

A. 1891 I think it was.

Q. 11. Have you ever handled that as a dealer?

A. Yes, sir.

Q. 12. When did you begin handling it?

A. In 1892.

Q. 13. How long have you handled it?

A. Handled it ever since.

Q. 14. Since you began handling the Dowagiac drill have you handled any other?

A. Yes.

Q. 15. What other drills did you handle of the shoe type?

A. I handled the Kentucky; I had one McSherry one year.

Q. 16. Did you buy these drills new?

A. Yes, sir.

Q. 17. From whom?

A. The Dowagaic drill I bought from the Dowagiac Manufacturing Co.

Q. 18. And the McSherry drill from whom?

A. The McSherry drill I bought from the Minnesota Moline Plow Co.

Q. 19. And the Kentucky drills from whom?

A. Deere & Webber, Minneapolis.

Q. 20. What induced you to purchase the McSherry drill?

A. Well, the principal reason was that I got them for less money, I think it was.

Q. 21. Was there any representation about its quality as compared with the Dowagiac or any other?

A. Well, he explained it to be just as good a drill as the Dowagiac, and come as near being a Dowagiac drill as it could be without having the name Dowagiac, and I got it for less money, and that is how I come to buy that onedrill.

Q. 22. What induced you to purchase the Kentucky shoe drill; any representations made about that?

A. Well, I was dealing extensively with Deere & Webber in other lines and doing a large business with them, and they induced me to take a few of their drills.

Q. 23. Did they make any representations about them; make any comparisons with the Dowagiac or other drills?

A. Yes. They claimed they were just as good as the Dowagiac drills; in fact very near the same thing.

Q. 24. What led you to take up the Dowagiac drill in the first place?

A. The demand for them.

Q. 25. Did you make any investigations as to the construction and quality of the drill at that time?

A. Yes, sir.

Q. 26. Were there any features about the drill that appealed to you besides the mere demand for it?

A. Yes.

Q. 27. If so state what they were.

A. Well, the principal thing was the light draft which was caused by the shape of the shoe, and the spring—well, the light draft was the principal thing.

Q. 28. How was the shape of the shoe as compared with that of other drills?

A. Well, it would touch the ground with the heel only in place of the others where the whole or mostly the whole shoe would come flat on the ground, and it would make the drill choke up and run heavier.

Q. 29. What do you mean by "choking up?"

A. Choke up in front with straw; stubble.

Q. 30. About how many Dowagiac drills have you sold during the time you have handled them, of the shoe variety?

A. Well, at least 175 drills and maybe more. I am not positive sure.

Q. 31. What other drills were in competition with the Dowagiac drill?

A. Well, the Kentucky and the VanBrunt and Monitors.

Q. 32. Was the Monitor a shoe or disc drill?

A. The Monitor shoe to begin with. Disc lately.

Q. 33. How long did the Monitor shoe drill continue to compete enough to cut any figure?

A. The Monitor shoe drill didn't compete very long. There hasn't been a great many Monitor shoe drills sold down there.

Q. 34. And what other shoe drills were there?

A. Well, there was Tigers sold there in those early days.

Q. 35. Which of those drills had coil spring pressure, so far as you remember?

A. Well, the Tiger, the Monitor I think; I am not so positive sure of that. I haven't paid much attention to it, it is so long ago.

Q. 36. How long was the Tiger in competition with you at your town?

A. Well, they were there only a couple of years.

Q. 37. What was the fault with those drills, such as the Tiger or Monitor so far as you have ever saw them working?

A. Well, they would run heavy, and they would choke up in the front with stubble. They would not clear.

CROSS EXAMINATION

By Mr. Banning—

XQ. 1. You say that shoe drills like the Monitor and the Tiger would choke up; was that because of the shape and position of the shoe?

A. Well, it was that, and also the spring I guess affected it considerable.

XQ. 2. The shoe ran with a good portion of its underside or edge on the ground, didn't it?

A. Yes.

XQ. Instead of riding on the heel?

A. Yes.

XQ. 4. You say the VanBrunt shoe drill was used and sold in that part of the country, also, I believe.

A. Some of them, yes. A few of them.

XQ. 5. The VanBrunt shoe was arranged about like the shoe of the Tiger or Monitor, was it not?

A. Why, as far as I remember now I think that the most of the drills have those split shoes, and that was one fault with them. They was split behind.

XQ. 6. Instead of being solid shoes like the Dowagiac?

A. Yes.

XQ. 7. Is the VanBrunt still sold in your part of the country?

A. Yes.

XQ. 8. What was the name of the man that sold you the one McSherry shoe drill that you say you had?

A. I think it was Mr. Blenkhorn.

XQ. 9. Where was he when he sold it to you?

A. In Abercrombie.

XQ. 10. Had you ever seen a McSherry shoe drill before you bought that one?

A. Yes, I think I had seen them down at Minneapolis.

XQ. 11. What became of that one that you bought?

A. I sold it.

XQ. 12. Was it returned to you?

A. No. I sold it so cheap that it would not be returned.

XQ. 13. The price at which shoe drills are sold is a controlling consideration with a great many farmers, is it not?

A. The price, yes.

XQ. 14. Are you sure that it was Blenkhorn who sold you that McSherry shoe drill?

A. Well, it is so long ago—that is the best of my recollection. I am not positive sure, but my recollection is it was him.

QX. 15. You didn't buy it from the house at Minneapolis direct?

A. Well, he was representing the house.

XQ. 16. Well, I mean you bought it from some agent?

A. Yes.

XQ. 17. You didn't have any correspondence with the house about it?

A. No, that I remember.

XQ. 18. After you got that McSherry shoe drill did you consider that the statements that you say the agent made to you were true about its being as good as the Dowagiac shoe drill?

A. Why, yes, he didn't misrepresent it to me any that I remember now.

(The signature of the witness in the presence of the Masters and Counsel is waived).

The further taking of testimony in these causes was here adjourned until Thursday, October 5th, 1905, at 10 o'clock a. m. at Minneapolis, Minn.

Minneapolis, Minn., Thursday October 5th, 1905. 10 o'clock a. m..

Met pursuant to adjournament, present as before.

W. J. DEAN, a witness produced, sworn and examined on behalf of the complainant, in answer to questions by Mr. Chappell, deposed and testified as follows:

Q. 1. Pease state your name, age, residence and occupation?

A. William J. Dean; 62 years old; residence, Minneapolis, Minnesota; dealer in farm implements.

Q. 2. How long have you been in the implement business in Minneapolis?

A. 28 years.

Q. 3. What sort of seeding machinery was used in this region when you first came here?

A. Broadcast seeders.

Q. 4. When were grain drills first introduced, as you re-

member it?

A. There was a few grain drills introduced in—well, there was a few grain drills sold then.

Q. 5. What kind?

A. The Superior.

Q. 6. Of shoe or hoe or disc?

A. A hoe. There may have been some Buckeyes, but I don't remember now.

Q. 7. The Buckeye hoe?

A. The Buckeye hoe.

Q. 8. About when was the shoe drill introduced in this country, as near as you remember?

A. Well, it is pretty hard to answer that. A few sold I think back about 1880.

Q. 9. What make was that?

A. The Superior. It may have been a year or two later than that, but that is my recollection.

Q. 10. What kind of devices did that drill have for urging the shoes into the ground that you first recollect?

A. A pressure.

Q. 11. Spring pressure?

A. Spring pressure must have been a little later than that; it must have been a year or two later than that.

Q. 12. Wasn't it really about 1887, that you first saw it?

A. No, because I had sold a great many shoe drills before that time. I was just trying to place when I changed partners; I had better correct that; instead of being 1880 make that 1883. It was three years Christian & Dean, and then afterwards Deere & Company.

Q. 13. How long did you continue to handle the Superior shoe drill?

A. I still continue to handle them.

Q. 14. Shoe drills do you mean?

A. Yes, I have sold shoe drills ever since.

Q. 15. How many shoe drills did you sell in the past year?

A. Not many. I couldn't tell you.

Q. 16. How many would you think off-hand?

A. Oh, 50 probably. I didn't keep any track of it from year to year what I sold on machines at all.

Q. 17. Where were those sold, if you remember?

A. In North Dakota and Minnesota.

Q. 18. Do you remember to who?

A. No. I want to say to you gentlemen that I am selling wagons, plows, buggies and gang plows and drills and

seeders and gasoline engines and potato planters and potato sprayers and all that whole thing, and I don't try to carry anything of that kind in my head. You understand I don't try to carry it. I buy the goods and—

Q. 19. Have you a convenient record that would show to just what extent you have handled shoe drills of the Superior make, and when that began and to just what points they were distributed in this territory?

A. I have not. I will explain that to you. When Deere and I dissolved partnership the books were left in their vault and I don't know but that they have been destroyed. That is 12 or 13 years ago, and we have destroyed part of our books. I have got, however, two vaults as big as this room full of stuff in 13 years.

Q. 20. All of the drills which you sold have been obtained from the Superior Drill Co. or the American Seeding Machine Co., have they not, of the shoe type?

A. Yes—no, I correct that. When I bought out the stock of the Manufacturers Syndicate, they had some four hundred or five hundred drills on hand that were shoe drills that I sold.

Q. 21. What make of shoe drills were those?

A. The Champion.

Q. 22. The Richmond Champion.

A. The Richmond champion.

Q. 23. Have you anything that will show the details of construction of those drills that you bought of the Manufacturers Syndicate Co.? Is that what it was?

A. Yes, the Manufacturers Syndicate. When Deere and I dissolved partnership I bought their stock of goods that was on hand, or it was turned over to me and I disposed of it.

Q. 24. What year was that?

A. That was in 1893.

Q. 25. Those drills to which you refer were manufactured by the Wayne Works Co., at Richmond, Indiana, were they not?

A. Yes.

Q. 26. Have you any record that would show exactly the address and the sizes of Superior shoe drills that you have sold since 1892, to the present time?

A. No, sir.

Q. 27. Have you records that will show these facts over any considerable period, that would be readily accessible so that it might be checked off without interfering with your private books?

A. You mean as to who they were sold to?

Q. 28. Yes.

A. I will explain that. We don't keep track of them in that way. For instance we sell a man a car-load of goods; it may contain buggies, wagons, drills and plows and all that, and we don't pay any attention to that. When the entry is made we don't keep track of where they were sold, only as you would go through our whole bills, where the goods are sold in that way.

Q. 29. You have no shipping record then that would indicate the quantities, the sizes, or the address where they were shipped?

A. Well, we have a shipping record in that way, when the shipments are made, but we don't assort them out and keep track of it so as to know afterwards.

Q. 30. How voluminous is this shipping record?

A. Well we have ten thousand slips in a year, shipping slips, or over; I think it is running now about 14,000 during this past current year, and you would have to go through that whole thing. Some ship by carloads and some ship locally. The books when bound will make a roll setting on edge longer than this table.

Q. 31. Is there any one person connected with your company who would have this information in concise form, so that we could get it for use as evidence in this case?

A. No.

Q. 32. Who, if anyone travels for your company in the Red River Valley, and what is his address so that we may get him to give such information as he is able to?

A. George C. Whitcomb, Alexandria, Minn.

Q. 33. Where can he be reached at the present time, if you know?

A. He is up on his ranch in Northern Minnesota, up at Warroad, a new town up there. He has got a ranch up there and he is now on a vacation.

Mr. Bowman: I object to this line of questions as improper rebuttal. I don't see as it has got anything to do with the testimony we have taken.

The objection was overruled and an exception noted.

Q. 34. Did you not in about 1900 or 1901, state that the shoe drill business, so far as the Superior drill was concerned, had dwindled to about 30 drills per annum here in the northwest?

A. I could not say on that that I swore to such a thing.

Q. 35. Well, that is substantially correct, is it not?

A. I think not. Not on the quantity. The trade of course was not as large as it had been, because we have sold disc drills.

Q. 36. When did you begin with disc drills?

A. I can't give the date on that.

Q. 37. Didn't you begin with the disc drill in about 1896?

A. I think it was before that.

Q. 38. Have the Superior disc drills been successful up here?

A. We call them so.

Mr. Bowman: I would like to have you specify whether you refer to the double or single.

Q. 39. The single disc with the shield.

A. I don't understand what you mean by the "shield." The single disc with the "shield"; what do you mean by the "shield?"

Q. 40. It is the shield which extends down to the side of the disc beyond the bottom of the boot, forming an open space between the disc and the side of this shield for delivering the seed to the bottom of the furrow.

A. My answer to that would be that they were successful, both single and double discs, so far as that is concerned.

Q. 41. I will call your attention to the fact that a Mr. Fred Ernst testified in the suit of the American Seeding Machine Co. against the Dowagiac Manufacturing Co., pending in this Court, that the mud clogged the bottom of this opening between the shield and the disc so as to interfere with proper seeding, and isn't that true?

Mr. Bowman: I object to that as immaterial, as improperly and incorrectly quoting from another case; impertinent to any issue in this case.

The objection was sustained and an exception noted.

Q. 44. (Showing witness paper) I call you attention to an affidavit that you at one time made in this case of the Dowagiac Manufacturing Co. against Smith & Zimmer, and ask you to kindly peruse the same and state whether or not it refreshes your recollection as to the time when you first

became familiar with the shoe drills?

A. That answer there does not say that I didn't have the shoe drills before.

Q. 43. So that does not assist you in your recollection?

A. That affidavit says I handled drills during those years. It does not say anything about before or after.

Q. 44. When you took up the Superior disc drill the shoe drills dropped down to an immaterial amount so far as you were concerned and in the business here, did they not?

Mr. Bowman: I call attention to the ambiguity of the question; whether it is intended to refer to single discs, or double discs or both?

Mr. Chappell: Disc drills generally.

A. We continued to sell shoe drills. Of course there was a larger trade on disc drills, especially double discs, than there was on shoes, in our trade.

Q. 45. The sales in shoe drills greatly diminished, did they not?

A. It was divided up between the different kinds.

CROSS EXAMINATION

XQ. 1. Mr. Dean, is it not a fact that you were to some extent the pioneer in the double disc drill, and devoted your energy to the business.

A. Yes, sir.

XQ. 2. How do you explain the fact that the Dowagiac Manufacturing Company's shoe drill was largely introduced in this section of the country at the beginning?

Mr. Chappell: I think that after that question defendant's counsel makes the witness his own, as I have not asked him for any matters of opinion along that line.

The objection was overruled and an exception noted.

A. Well, that is pretty hard for me to answer.

XQ. 3. Do you remember anything as to the shape of the shoe or the manner of their conducting their business which gave them the lead?

Mr. Chappell: I think that is not a question that was gone into on the direct, so I will object to it. If you wish to go ahead with the question you make the witness your own.

Mr. Bowman: Well, in view of counsel's feelings that the witness is hostile to them, counsel for defendant has no desire to pursue the matter.

The question is withdrawn.

(The signature of the witness in the presence of the Masters and Counsel is waived).

Adjourned to 1:30 p. m.

UNITED STATES DISTRICT COURT—WESTERN DISTRICT OF KENTUCKY.

Dowagiac Manufacturing Company, Complainant,
vs In Equity.
Brennan & Co., et al., Defendants.

Proceedings had in the above entitled cause before A. G. Ronald, Esq., Special Master, at Minneapolis, Minnesota, on Thursday, October 5th, 1905.

Present on behalf of the complainant, Mr. Fred L. Chappell; on behalf of the defendant, Mr. Border Bowman.

Mr. Thomas A. Banning, attorney for the Minnesota Moline Plow Company, also being present, and Mr. Louis K. Hull, attorney for the Deere & Webber Company.

And thereupon the following proceedings were had, viz:

GEORGE P. SCHUTZ, after being first duly sworn, deposed and testified in answer to questions by Mr. Chappell:

Q. 1. Please state your name, age, residence and occupation?

A. My name is George P. Schutz, I am aged 37, live at 1407 Emerson Ave. North. I have charge of some of the travelers of Deere & Webber Company.

Q. . Are you an employe or an officer of the Deere & Webber Company?

A. An employe.

Q. 3. What is the capacity of your employment?

A. I look after, or have charge of some of their travelers.

Q. 4. In the absence of the officers of the company do you have charge of the office?

A. No, sir.

Q. 5. Who does have charge of the office?

A. Well, that I don't know. If anyone should come in there to buy goods, why, I presume Mr. Drehmer or I would

look after it. If they wanted some repairs I suppose we would refer them to our repair man.

Q. 6. Do you know whether or not any of the officers of the Deere & Webber Company are in the city now?

A. Why, I know that Mr. Velie is out of the city, and Mr. Webber is away. I have been away and I don't know where he has gone to. I asked, or overheard a remark this morning that he was out of the city. That is all I can tell you.

Q. 7. Who made that remark

A. Why, it was either Mr. Drehmer or Miss Elmore, Mr. Webber's stenographer, I don't know which.

Q. 8. What is Mr. Drehmer's full name?

A. David Drehmer.

Q. 9. Who is the bookkeeper of the Deere & Webber Company?

A. Mr. C. H. Button.

Q. 10. Is he here in the city?

A. I think he is; I am not sure.

Q. 11. So far as you know none of the officers or managers of the Deere & Webber Company are in Minneapolis today, is that right?

A. I am quite positive, yes, sir.

Q. 12. That some of them are, or that none of them are?

A. That none of them are in the city.

Q. 13. And no one is left in charge of their business here, is that true, so far as you know

A. Yes, sir, except to the extent that I said. If anybody comes in there they will have attention all right in a business way.

Q. 14. Do you have access to the books of the Deere & Webber Company?

A. No, I never have anything to do with the books.

Q. 15. Have you any records or lists in your capacity as having charge of the travelers that would show the sales of Kentucky shoe drills by Deere & Webber in this territory?

A. Why, I could, I presume, go to the contracts in the regular course of business which are filed among their valuable papers in the vault.

Mr. Hull: I don't think you understood the question. He asked you if you had any list.

(The question was read to the witness.)

A. I would answer that no, sir.

Q. 16. Is it any part of your duties to keep such a record?

A. Why, we keep a record, a crude record from year to year ,and my recollection is that we discard it. Simply for reference in the sales office.

Q. 17. You have no records in your charge that you could make up a list of the customers from, the sizes of the grain drills, the prices and the dates of sales?

A. Only by going to the contracts.

Q. 18. And are the contracts in your charge?

A. No, sir. They are filed among their papers and books in the vault. During the regular course of business if we should get a letter from a dealer pertaining to something covered by one of these contracts, I would be at liberty to look it over so as to enable me to answer the letter, but further than that I would have no—

Q. 19. Have you any means at your command, or do you remember sufficiently well so that you could give a list of the customers and sales of Kentucky shoe drills, the dates on which the sales were made, the sizes of the drills and the prices of the same?

A. I would not have authority to do that except for an officer of the company.

Q. 20. Please read him the question.

(Question 19 was read to the witness.)

A. I could not do so without being requested by Mr. Webber or Mr. Velie or an officer of the company.

Q. 21. Then you have not the means at your command to answer this question, is that right?

A. I would have no right to.

Q. 22. You could answer the question if you were directed to do so by proper authority, I suppose; by the Court, or by some officer of the company?

A. Well, that I don't know.

Q. 23. Why don't you know?

A. Well, I would not make up a list of drills from contracts unless the people that employ me instructed me to do so. They are not mine.

BY MR. RONALD, SPECIAL MASTER.

Q. The question is could you do so? Have you data

from which you could make up this list?

Mr. Bowman: You mean at the company's office?

Mr. Ronald: At the company's place of business; is the data there that he can go to and from which he can make up this list?

A. Why, I could go on and do a thing that I didn't consider I had a right to.

Mr. Ronald: Well, we are not talking about that part of it yet.

The Witness: I haven't the authority, I can say, if that will cover it.

Mr. Ronald: It isn't a question of authority. The question is, is the data in the office of the Deere & Webber Company accessible to you from which you could make up this list? That is all.

Mr. Hull: He has testified that none of these things are in his custody, and he has had no charge of them in any way.

The Witness: They are not in the sales office. They are not in my custody at all. They are in the vault, and I would not consider that I had a right to go there and take them.

Mr. Ronald: It isn't a question of right, it is a question whether they are accessible to you.

A. They are accessible to me, I presume, in the office, one at a time, to be able to take care of the correspondence in due course of business. For example: I would not dare go into our office and take out a contract and carry it away with me without getting permission to do so.

BY MR. CHAPPELL:

Q. 24. An order of Court would be pretty likely to protect you, wouldn't it?

A. Well, I would have to consult our attorney about that I suppose.

Q. 25. If the Court should order you to prepare such a list, or if you should be ordered to prepare such a list, by an officer of the Deere & Webber Company, you would be able to do so, wouldn't you?

A. If an officer of the Deere & Webber Company instructed me to do so I would; otherwise not.

Q. 26. But if you were so instructed you would be able to prepare the list, wouldn't you?

A. By an officer of the Deere & Webber Company.

Mr. Chappell: I note that Mr. Hull, who has appeared as special counsel for Deere & Webber and also for Mr. Webber, is here, and I will ask him if there is an officer of the Deere & Webber Company accessible who would be able to answer these questions and furnish this information here in the city of Minneapolis today.

Mr. Hull: I could'nt swear to it. I could not testify on that point. I know that Mr. Webber was to leave town the same night that you did; I supposed he was going, from mere hearsay, up in North Dakota at that time. I have been told by his stenographer in the office that he was to be in North Dakota the rest of the week. Mr. C. H. Deere is the president of the company, and his residence is in Moline. As to where he is today I could not testify. I know from rumor that Mr. Velie has been on a hunting expedition for about a month in Wyoming, or Southeastern Montana. Where he is I don't know further than that. They are the three officers of the Deere & Webber Company. I am very certain that there is no officer here, but as for making oath to that fact I shou'd hesitate to do it.

Mr. Chappell: In view of the fact that the officers of the company are absent, and have employed you to act as special counsel in the matter, I will ask you if, in view of Judge Morris' remarks, you are willing to advise your client to prepare a list of sa'es of Deere & Webber to their cusomers in this territory of the Kentucky shoe drills, giving the dates of the sales, the sizes of the machines sold and their prices?

Mr. Hull: In view of Judge Morris' remarks I should unhesitatingly advise the Deere & Webber Company not to do it. I understood Judge Morris made no remarks overruling Judge Lochren's decision. Judge Lochren decided emphatically that we were not called upon to do that, and would not be. I understand that to be the law governing Deere & Wel ber at the present time.

Mr. Chappell: I refer to Judge Morris' remarks wherein he suggested that the proper officers of the Deere & Webber Company be called as witnesses, and be requested to furnish this information without going into their books, made at the time when we were c'osing our arguments day before yesterday in the matter of the application for a subpoena duces, which he now has under advisement.

Mr. Hull: Well, I understood Judge Morris to merely ask you if that would not be the best way for you to proceed, and I didn't suppose that the subject under consideration

covered only the matter of rebuttal of the witnesses that had testified before the Master at Fargo.

Mr. Chappell: In view of the fact that the Judge made that suggestion, I will remark that we have sent out subpoenas for Mr. Webber and for Mr. Velie and for any other officers of the company, and have done our best to find out who was in charge here that could furnish this information. I therefore have asked you as I have, and I will ask the Master to certify what has occurred here to the Judge, so that he can have before him the issue here involved in the matter.

Mr. Ronald, Special Master: It does not seem to me that there is anything to certify yet. The witness has not yet refused to furnish the information.

Mr. Hull: It should appear that Mr. Webber did respond to the subpoena, and was here Monday at this hearing.

Q. 27. I will ask you, in view of the fact that you are able to do so, to prepare a list of the customers of the Deere & Webber Company for Kentucky shoe drills, indicating the sizes, dates of sale, the names and addresses of the parties to whom they were shipped and the prices received therefor.

Mr. Bowman: I think, in view of the record, that I should object to such a question as improper rebuttal, unless it is confined to what was proved by Defendant, or the evidence taken by Defendant, or in some way confined to the prima facie case that the Complainant made. It does not seem material to any evidence that the Complainant took in his prima facie case, nor does such a sweeping question seem material to anything taken by Defendant.

Mr. Banning: I wish, Mr. Master, also to make a little statement. On behalf of the Minnesota Moline Plow Company, the defendant in one of the cases in which the witness has been sworn, I desire to say that it is a matter of indifference to me and to my client whether the witness furnishes the information or not, and that I desire, therefore, to be understood as not objecting to the question, but that I do object to the closing of the rebutting testimony in the Minnesota Moline Plow Company case being delayed by Complainant's counsel in order for him to get the information that he appears to desire to get by his questions, and that I insist upon his proceeding to close the rebutting testimony in the

Minnesota Moline Plow Company case, without reference to whether he gets the information which he is seeking to get from this witness or not.

A. I will make out a list at the request of an officer of the Deere & Webber Company only, or my employers.

Q. 28. Then you decline to comply with the request, is that right?

A. Yes, sir, taking it for granted that the list would be furnished to you, or any outsider outside of the Deere & Webber Company or their officers.

Mr. Chappell: The request is that it be furnished for evidence in these cases here pending.

Mr. Hull: In view of these objections of Mr. Bowman, has the Master ruled on them.

Mr. Ronald, Special Master: No, there has been no ruling on Mr. Bowman's objection yet. Mr. Chappell what is your position about the competency of this list? I don't know, in spite of all the argument, that I am exactly clear as to the purpose of getting this list.

Mr. Chappell: In the accounting, particularly so far as Brennan & Co. are concerned, the question of damages has to be determined largely by the proof as to whether or not the Complainant would have been likely to have supplied these drills had the Defendant not sold them in this market. It becomes material, or it may become material to show exactly to whom they were sold, whether or not the Dowagiac Company was supplying that particular market where they were sold, and for that reason it seems to me that all the circumstances of the sales, so far as the question of damages is concerned, is proper to be gone into. The Defendant acquiesced in the objection that this information was not material when we presented our prima facie case, and then afterwards proceeded to take testimony along the line to show that it was material; conceding that it was material to a certain extent, and therefore, in our case in rebuttal we feel that we have a right to go into the matter thoroughly and show that so far as they presented their proofs from which they will undertake to reason to the entire subject-matter, that it is applicable, and it is properly rebutting that testimony.

Mr. Banning: I would like to inquire of Complainant's counsel in what respect, if at all, he regards the testimony

which he is seeking to elucidate from this witness is relevant or material, so far as the case against the Minnesota Moline Plow Company is concerned, inasmuch as I am unable to see any materiality or relevancy to the testimony with respect at least to the case in which I represent the Defendants.

Mr. Chappell: In response to that I would say that it seems to me to show generally the situation and demand for goods in the territory, which has been gone into a general way by the Defendants in the Minnesota Moline Plow Company case.

Mr. Bowman: In answer to Mr. Chappell's remarks with reference to the defendants, Brennan & Co., Brennan & Co.'s attorney calls attention to the Record at page 47 of the printed testimony of Mr. Swayne, where he mentioned the places where they had felt the competition of Brennan & Co.'s drill, and that the Defendant herein has confined its testimony to testimony directly refuting that testimony of Swayne, or the testimony of witnesses as to the practical operation of a coil spring drill and a flat spring drill or rod spring drill, and that Defendants' counsel fails to see how it can be material to anything taken by Defendant to introduce such a line as is proposed.

Mr. Banning: I still fail to see, notwithstanding the explanation of Complainant's counsel, in what respect the testimony sought to be obtained is material or relevant in the case against the Minnesota Moline Plow Company, as it is not claimed that such company ever sold any Kentucky drills or other drills manufactured by Brennan & Co.

Mr. Chappell: Complainant's counsel would remark in response to counsel for Brennan & Co., that the Defendant in that case has not restricted its proofs, as Complainant's counsel views it, to the exact matters indicated, but has gone into the question of the sale of all kinds of drills, and specifically and extensively into the sales of Van Brunt drills, so that it seems that it is very material to show all the circumstances in the matter, Defendant's counsel having, as it seems to Complainant's counsel, studiously avoided going into the subject thoroughly, and it is believed by Complainant's counsel that whenever the subject is gone into thoroughly the fact will certainly appear that the Complainant's sales have been superseded by the Defendant.

And in response to the remarks by counsel for the Minnesota Moline Plow Company, I would state that the testi-

mony would seem to be material as showing thoroughly the circumstances under which business had been done in the northwest in these shoe grain drills, and certainly may be of importance and material in response to the proofs that have been advanced by the Defendants in that case.

Mr. Bowman: Is counsel for Brennan & Co. to understand that counsel for Complainant has changed his position as indicated in this petition for a subpoena duces tecum, wherein, at the end of said petition, it is stated that the object of this information is "to determine the question as to whether or not such grain drills (Kentucky grain drills) interfered with the sale of petitioner's drills." Defendant's counsel would like some indication of where the materiality of that is.

Mr. Chappell: Complainant's counsel has only made statements in a general way, and does not consider that it ought to be necessary to enter into a complete argument of the case at this juncture, and does not consider that he has confined himself to any particular feature or branch of the case in asking for the testimony, or has restricted his argument in any way as to any deductions that may be produced therefrom.

Mr. Ronald, Special Master: Well, as I understand now the witness declines to answer the question.

Mr. Hull: Well, I had supposed that the Master had overruled the objection, but it seems to me that there ought to be a ruling on the part of the Master, before the question is put to the witness, on Mr. Bowman's objection, and if that is overruled, then the other matter will come up.

Mr. Ronald, Special Master: It appears from the statement o fthe special counsel for the Deere & Webber Company that all the officers of that company are now absent from this city and state; and that Mr. Webber left on Tuesday afternoon or night. The witness states that he has access to the necessary data to prepare the information asked for; that if he should now receive a letter, or the Deere & Webber Company should receive a letter asking for any portion of this information, he would have sufficient authority to go to the files and get the information and answer the letter, and that if authorized by any one of the officers of the Deere & Webber Company he would procure the list desired. I think, therefore, it is in the power of the witness to furnish the information, and that his position with the Deere & Webber Company is such as to authorize him to make an exam-

ination of their files for the purpose of securing it.

Since the ruling of Judge Lochren upon a similar motion to this, the defendant has taken the testimony of some 13 or 14 witnesses in regard to the sales of Kentucky drills by Deere & Webber. At least some of these witnesses were procured by Mr. Webber and testified at his instance. This testimony relates to the sale of Kentucky drills in certain localities, and as I recollect it, in some instances at least, gives the number of drills sold, and the prices obtained. I do not think it is confined entirely to a rebuttal of Mr. Swayne's testimony.

In view of what has transpired since the ruling by Judge Lochren, I think the testimony sought may be material, and that complainant is entitled to the list.

Mr. Bowman: Note an exception to the ruling.

Mr. Chappell: I will request the Master to certify this entire proceeding of this session to Judge Morris for his consideration at as early a date as the Judge can take it up, and shall request the Judge to direct the witness to answer the question that he has now declined to answer.

Mr. Hull: I will instruct the witness that he need not answer the question until the matter has been respectfully submitted to the Court, and until the Court directs the witness to answer.

At this point Mr. Bowman called up the motion to limit complainant's time in rebuttal, and Mr. Chappell stated that he did not contemplate taking any further testimony in the Northwest, and would close his depositions at Dowagiac.

Mr. Chappell: As soon as I can review this matter.

Mr. Bowman thereupon withdrew his request to consider the motion.

Mr. Chappell remarked that he would like a reasonable time in which to get this Deere & Webber straightened, at least an opportunity to ask an order of the Court on it.

Mr. Hull: I would like to have Mr. Chappell state, in order that the record may be clear, and that we may be fully advised, exactly what he wishes produced. It is not clear to me, and the period he wishes covered.

Mr. Chappell: The first period that it is desired to cover is the period from the time when the Deere & Webber Co. began handling the Kentucky drills up to the time that they ceased handling them, in which the flat springs were used. Mr. Webber has already answered as to the quantity of drills in which coil spring have been used, as I remember it, and we do not care especially for a list of customers handling the

coil spring pressure Kentucky drill. The information should then embrace the shipments, giving the date and the address of the parties to whom shipped; the sizes of the different shoe drills that were included in each shipment, and the prices received therefor. The reason that the request is made covering the entire period of the handling of these drills by Deere & Webber is, that I think it appears in the record that Deere & Webber began handling these drills in 1893 or 1894, a little before the period embraced by this accounting, and that the circumstances under which the sales began would show the relations which all the sales bore to the business of the Dowagiac company. Under the statute it would not be contemplated that we could go back earlier than the statute actually limits in what we recover, but it seems to me that the circumstances even of the first drills, as to whether they superseded Dowagiac drills, has an important bearing on that question in the entire case, and that is the reason I made the request in the form in which I did.

Mr. Ronald, Special Master: Is there any objection to this period extending beyond the period of the accounting?

Mr. Bowman: I would state that this record is complicated enough without unnecessarily burdening it with all the inferences that Mr. Chappell refers to, and they are so speculative that it does not seem to be material.

Mr. Chappell: All the questions in this case have to be speculative.

Mr. Bowman: We concede that.

Mr. Ronald, Special Master: I will limit any ruling to the period covered by the accounting.

Mr. Hull: What is that period?

Mr. Ronald, Master: It will be from August, 1849, until June, 1904.

Mr. Chappell: If the earlier date is not correct, I consent that it be corrected by a reference to the files.

United States of America—District of Minnesota.—ss.

I, A. G. Ronald, Special Master, appointed by the United States Circuit Court for the Western District of Kentucky, do hereby certify that the foregoing is a true and correct transcript of the proceedings had before me in the foregoing entitled matter, at the Clerk's Office of the United States Circuit Court for the District of Minnesota, at Minneapolis, Minnesota, on Thursday, October 5th, 1905.

A. G. RONALD,
Special Master.

CIRCUIT COURT OF THE UNITED STATES.
DISTRICT OF MINNESOTA.
FOURTH DIVISION.

Dowagiac Manufacturing Co.,
Complainant.

vs.

Minnesota Moline Plow Company,
Defendants.

In Equity
George F. Hitchcock,
Master.

Dowagiac Manufacturing Co.,
Complainant.

vs.

Smith & Zimmer,
Defendants.

In Equity
Sampson R. Child,
Master.

Before Masters in Chancery.

REBUTTAL TESTIMONY.

MR. CHARLES L. FOWLE, being recalled, testified to interrogatories in rebuttal as follows, by Mr. Chappell:

Q. 1. I call your attention to the deposition of Oscar W. Bond, particularly to the answer to Q. 11, where certain essentials are pointed out as to grain drills, 12 in number, as I note them, and wherein a number of prior patents were considered, and I will ask you whether or not the structures referred to by Mr. Bond did substantially result in a grain drill which solved the grain drill problem for the territory in which the Dowagiac shoe drill made under the Hoyt patent in suit was especially successful and salable. In making your answer, kindly consider each of the patents offered in evidence in that connection and state your familiarity with such devices and as to whether or not you have seen grain drills manufactured in accordance with the same in use successfully un-

der the peculiar conditions of the soil and climate that you have referred to heretofore in your testimony.

A. Regarding Mr. Bond's analysis, of the essentials of a shoe drill, under twelve heads or groups, I do not find that he has touched upon the efficiency of any of these essentials. In his first, under the primary features of the grain drill is the carrying wheel. Regardless of how old a device a construction consisting of carrying wheels, an axle for them, mounted on a frame with a tongue for attaching a team, a shoe furrow opener, a seed box, conduit, etc., might be, and how well it might work under favorable or under ordinary conditions, would be an utterly useless implement in the mountain regions, on stony ground, without sufficiently strong wheels to carry the structure. If no wheels had been made sufficient for the purpose under those conditions, the drill would be useless there until sufficiently strong wheels could be provided. Second, "a seed box and a force feed for the grain from the seed box." Regardless of how good for sowing wheat and other small seed, it might not do for sowing peas, beans and corn, and could not be used for that purpose until feeds were produced which would handle the large seed and as a machine in its entirety would be of no service to a grower of beans, peas and corn exclusively without a feed suitable for that work. Without reviewing or quoting further from each of the other ten essentials, it must be learned that the scope or capacity of each element and the matter of degree of proficiency are important, so important as to make it absolutely indispensable to the successful operation of a drill. The old features of a grain drill most of which Mr. Bond has very nicely reviewed, certainly existed at the time of the issuing of the Hoyt patent. I have seen them in many forms, some of them by different makers ,answering almost identically the same word description yet the one very successful in operation in some soils and under some conditions, the other a practical failure for use under the same conditions. For instance, two hoe drills of different makes might answer the same word description, but one having a hooked or plow like point would work successfully in unplowed stubble ground, by constantly clearing away the accumulation of straw in front of the hoes, while the other with a blunt or perpendicular point, adapted for use in light plowed ground would not work in the stubble field. I have seen that peculiar condition exist in Kansas when much grain is sown in the unplowed ground. In a shoe drill a shoe or runner is not only essential, but it must be a runner so shaped

that it may be used in various conditions of the ground and in various kinds of ground to be a successful drill. Spring pressure for the shoes is not an essential, for special use of shoe drill namely in light mellow soil, but for general use, and extraordinary conditions, such as exist in the Northwest, it is not only an essential, but its degree of flexibility is also essential. It must be not only a flexible spring, but one sufficiently flexible to permit the shoe a long range of action upward and downward, and with a maximum practical pressure applied, still yield sufficiently to let the shoe pass over clods, trash and other obstructions. Especially so, on wide drills, where the shoes must have a wide range of action to conform to the uneven surface of the ground, and make the drill furrows the same depth.

The J. S. Marsh patent, of May 14, 1861, and the McSherry patent of December 13, 1864, show constructions which were doubtless practical and were probably used in certain places under certain conditions, but could not meet the requirements of a grain drill everywhere, and it was doubtful if they did generally. The same is true of the device shown in Wheeler & Tuttle of February 5, 1867. That style of shoe drill might be used for planting wheat in the sandy soil of Michigan at the usual depth of one to three inches to cover the seed of light draft, and in nearly all respects was a good grain drill for this particular section and this particular soil. Some of that construction are still in use in this vicinity, having been used more than thirty years, but with the same form of shoe and without means for forcing it into the ground, it would be a worthless implement elsewhere. But by substituting a modern shoe with proper spring pressure appliance the drill could be successfully used for drilling today in the Western States. Yet both structures would answer somewhat the same word description of essential parts. The same description with exception of the pressure appliance if an indifferent or an ineffectual spring pressure appliance were applied to this old form of shoe drill as seen in the Wheeler & Tuttle patent, the same word description would apply, but the one would be valuable for use in the Western states, the other would not. The runners of furrow openers shown in C. W. Patton patent of Sept. 8, 1868, and in the A. O. Wheeler patent of Dec. 21, 1869, would doubtless do good work under some conditions, but probably not under general conditions and certainly not under the conditions existing in the Northwest states. I speak from knowledge of that form of runner, it is used on a clear-

ing wheel drill. The Buckeye Co., that is P. P. Mast & Co., had some drills in the Northwest with runners similar to this in construction. I saw them on trial at the Granden Farm, Hague, N. D., where there were four of them. They proved unsatisfactory and I believe that Mast & Co. discontinued their use after that year. The shoe shown in the Taylor & Lynam patent of July 17th, 1877, is a radically different type, but with spring attached to the toe of the shoe, could not and did not answer for use where heavy pressure was required. Joseph Jennings, a jobber at Minneapolis, introduced a shoe drill of that description in the northwest some twelve or fourteen years ago, which was built by Brennan & Co., of Louisville, Ky., who abandoned that structure after the first year's experience, I believe.

As to the Smith & Thomas patent, of February 12, 1878, and any later ones not shown, are seed distributors or feeds, good, practical adjustable force feeds, have been made many years ,some time prior to the Hoyt patent. Two distinct types and several variations in each type.

Notwithstanding the essentials as enumerated by Mr. Bond, which are quite common in the construction of grain drills, at the time the Dowagiac Mnfg. Co. entered the grain drill trade in the Northwest and during its experience in the development of a shoe drill adapted to the requirements of that region, the fact cannot be questioned that farmers want to drill in the grain; that they had tried drills of various makes and kinds within my knowledge and experience, hoe drills, some runner drills of the "low down" type, one of which met with some favor and had quite a sale through certain years—the Havana press drill; yet farmers were not successful and needed a grain drill which would do satisfactory work in dry ground, wet ground, hard ground and mellow ground and keep reasonably free from a large amount of stubble, roots ,etc., which is general there ,because it does not rot between the time it is plowed under in the fall and seeding time in the spring. As stated, the Havana press or runner drill met with some favor along during the years of 1887, '88, '89 and '90, so did the Dowagiac shoe drill with only six pound iron weights for pressure on the shoes. But it was not until an adjustable spring pressure was used in connection with the shoe sufficient to take the entire weight of the drill or any less part of it and to give the shoes the desired and necessary force upward and downward to follow the uneven surface of the ground and ride over the trash, that grain drills became

generally and universally adopted in place of broad cast seeders which had been theretofore used. It mattered little how good and perfect the wheels, axle, frame, tongue, grain box, grain feeds ,conducting tubes, covering device and feed might be if not equipped with an efficient pressure for the shoe in that territory, a machine was of little or no value. This statement is not theoretical but is based on my own personal knowledge obtained from experience in the field during the introduction of grain drills in the Northwest from, beginning with 1886 and until they had taken the place of the broadcast seeding machines, eight or nine years later.

There were a number of changes made to adapt shoe drills to the requirements there aside from the spring pressure. Our first shoes were ten inches long. They did not ride the trash well. After an experience of one day in the spring of 1887, on the farm of Clarence Roberts a few miles south and east of Casselton, I had a set of shoes made from a paper pattern fourteen inches long and nearer straight on the lower edge than the old shoes, and tried those on the same drill a few days later. They proved much better. We used that shoe continuously since and it has been used by others almost exclusively with the exception that the heel was clipped off in 1891 and it has so been used since.

Then the receivers or castings to which the conducting tubes are attached had to be capped over to prevent the mud from falling off the wheels into those receivers and also to prevent the wind from blowing the seed out of the side and over the top of the feed.

Mud guards were made to be used between the wheels and the ends of the grain box; but none of those changes and all of them together were not of as much importance in the construction and operation of the drill as the development of an efficient spring pressure was.

I have read the evidence of some witnesses to the effect that the shoe spring pressure was not an important factor in the development and sale of shoe drills in the Northwest. I can only say that it was a work in which I took a great deal of interest ,traveled over the country from Huron, S. D., to the Canadian line in the Dakotas, and in Western Minnesota, making contracts with the dealers, seeing drills worked, attending fairs, exhibiting the drills, in fact, gave it my undivided time and attention, and have a very distinct recollection of shoe pressure being the absorbing topic of conversation in grain drill circles among jobbers, implement dealers and farm-

ers; that is, it was the one feature more discussed than any if not all other features of grain drills from 1890 to '94 or '95. Repeatedly I have had implement dealers say: "The McSherry we can buy for less money, and they have got a spring almost exactly like yours." I have heard a similar remark pertaining to other makes of drills using bar spring pressure.

Elken Bros., of Mayville, N. D., sold several carloads of Dowagiac drills each year from 1891 inclusive to 1900 or thereabouts and in 1891 and 1892 during the selling season from January 1 to April 1, had the Dowagiac shoe drill set up in an office where it was shown to farmers; it was the only implement of any kind set up as a sample in their office during the two selling seasons referred to when I was there, which was two or three times during each of those years; and I saw the senior Elken show this sample drill to farmers, laying particular stress upon the shoe spring pressure and lifting the shoes by a covering chain to show the farmers its action and explaining its advantages over other forms of spring pressure. Collins & Murphy were during those years the Dowagiac Co.'s customers at Grand Forks, N. D.—in 1891, '92, and other years before and after those years. In 1891 and '92 they also had a Dowagiac shoe drill set up as a sample just outside their office. I have also seen their Mr. Murphy show and talk the Dowagiac drill to their farmer customers, during the two years referred to. Mr. Murphy showed and explained the shoe spring to the farmers in much the same way that the senior Elken did. I did not see all of the Dowagiac Co.'s customers during the selling season from January 1st to April 1st in 1891 and 1892, but saw a number besides Elken Bros. and Collins & Murphy, among them being George Brown, of Wild Rice, N. D.; Strehlow Bros. or Strehlow & Co., of Casselton, N D, and they also had samples set up, talked and showed the shoe spring pressure as the principal selling feature of the shoe drill. The Dowagiac Co., through myself as their representative sold the drills at retail in Fargo. During both 1891 and '92, or the first three months of each year, we had a sample drill set up in the front of the warehouse near the office door—a 20-shoe drill. I made most of the sales to farmers, who went to Fargo to buy, and in showing the drill to them, demonstrated the bar spring pressure by taking hold of the covering chains, one chain, and lifting the shoe to show the amount of spring pressure, but more particularly its range of action. Then, to show the amount of spring pres-

sure, the pressure or lifting lever would be thrown to its limit ,forwardly, which would raise the main wheels clear from the floor. I well remember that as built in the fall of 1890, the entire pressure applied would not quite lift the main wheels off the floor. To make it do so, we filed the lift lever socket a little, so as to give the rock shaft a little more action forwardly, which accomplished the object, and I wrote the Dowagiac Co. to make the change, which they did, bending the wrought iron pressure lever or lift lever edgewise and backwardly at the top, so that it would not strike the grain box when the extreme spring pressure was applied. Of course in operation in the field, it would not do to lift the main wheels off the ground by applying too much pressure to the shoes, as there would then be nothing to turn the feeds, but in ordinary ground, the shoes would be running an inch or two below the level of the main wheels, so that the extreme pressure would not take the entire weight of the machine as it would upon the wood floor. Then the weight of the seed in the box also made some difference when operating the drill in the field; but in showing up the drill to farmers, it was an advantage to lift the main wheels by the shoe pressure to show that it was ample; and that it then had an upward movement or action sufficient to pass over large clods This was certainly practiced by the Dowagiac Co.'s implement dealer customers during the spring of 1891 and the spring of 1892, and until the rod spring pressure was known and familiar to farmers in that territory.

Adjournment to November 25th at 9:00 a. m.

Met pursuant to adjournment. Present as before.

Q. 2. In your answer, I note you mention certain of the prior patents as illustrating the structures with which you are familiar. Please indicate the makers of these structures, and what you know of your own personal knowledge regarding their working qualities, whether the structures are responsive to the requirements of a good grain drill as specified by Mr. Bond ,and explain in detail, the effectiveness of such devices, and the reasons for their working qualities.

A. The word "good" in the question would cover considerable ground as applied to grain drills outside of its working qualities, but considered only in that sense, it, like most or

all other things, is measured by comparison with others of like kind. In my review of the patents recited, I tried to make clear that all or nearly all grain drills, including those referred to, and ever built and used, would doubtless do good work under some conditions. As in my experience, I have never seen a grain drill so poor in principle but what if properly built, would do good work in some selected place and condition; and I know it to be true of some of the structures shown in ments. I again refer to the Wheeler & Tuttle patent of Febticularly in the Northwest States, could not meet the requireruary 5, 1867. I am quite familiar with this structure, and these patents; but for use under trying conditions, and parwith its working qualites. Wheeler & Tuttle began the manufacture of shoe grain drills at Dowagiac on the ground where the Dowagiac Mnfg. Co. is now located. They were succeeded by several other concerns, all of which continued the manufacture of the shoe drill to a limited extent, until the Dowagiac Mnfg. Co. was organized in 1881, and succeeded the concern of Warner & Tuttle at that time. I was employed by Warner & Tuttle as bookkeeper, prior to the organization of the Dowagiac Mnfg. Co., and all of the predecessors of the Dowagiac Mnfg. Co., built the shoe drill on the same lines as shown in this Wheeler & Tuttle patent. There are a few of those drills made prior to 1875 still in use in Southwestern Michigan. In fact the first shoe drills which the Dowagiac Mnfg. Co. sold in the Northwest were of the kind shown in the Wheeler & Tuttle patent with modifications in the design. Under favorable conditions, they did very good work; but the ground had to be plowed and thoroughly harrowed ,and reasonably dry to admit of their use in North Dakota. In fact the ground had to be well fitted to do good seeding with the weight shoe drill. I saw them tried in some fields prior to 1890, where shoes with the weights applied would not penetrate deep enough. In my capacity with the Dowagiac Mnfg. Co. at that time, I was general agent, field expert, and calamity man, generally. When there was a comp'aint from the territory, I answered it personally. I saw so much of the work of these drills in the field. I remember that in the spring of 1887 or 1888, William Weaver, a large farmer of Cass Co., N. D., bought six or eight of these Dowagiac weight drills, and reported that he could not use them in the field. I went to his farm, which was a little low, and the soil rather hard and compact, although quite moist. I induced him to put two drags on ahead of the drills, that is, drag the ground over twice, which he did. The weight drills

did very well then, and planted the wheat from one to one and one-quarters inches. Had those drills been equipped with a good strong spring pressure, no extra dragging would have been necessary.

The structure shown in the Brennan, Taylor & Lynam patent of July 17, 1877, which was introduced in the Northwest in the early 90's, was not operative because considerable pressure was usually required and when applied to this device, it pressed downwardly on the toe of the shoe, causing the shoe to rock forwardly and downwardly; the more pressure that was applied the flatter the shoe would run, being exactly the reverse action to what was desired; because the harder the ground, the more necessity for tilting the shoe backward to cause it to run on the heel and penetrate the soil. After the introduction and abandonment of this form of construction, Brennan & Co., S. W. Agr. Co., followed it up with rod spring pressure construction, the cause of this litigation.

Q. 3. When, so far as you know, were the last of these machines sold, by the Dowagiac Co., or the design put out by Brennan & Co., and state whether or not shoe drills of that design, as it was improved up to the time you speak of, would be salable at the present time?

A. The last shoe drills made by the Dowagiac Mnfg. Co., with weight pressure and without spring pressure for the shoes, was in 1889. They would not be salable at any price to cover the actual cost of manufacturing, in any territory where shoe drills are used now; although they would do good work in the sandy soil of Southern Michigan, farmers prefer the present construction at the regular price to the weight drills at extremely low price. In the Northwest ,I believe that a four-horse shoe drill with weights, such as the Dowagiac Co. sold in 1886 to 1889 inclusive, could not be sold at auction for more than $10.00 or $15.00 if it could be sold at any price. As to the Brennan, Taylor & Lynam shoe drill structure shown in patent No. 193,075. I am not certain just what year it was introduced in the Northwest, but it was between 1890 and 1895, and I think it was 1892. It was the year before their rod spring pressure infringement of the Hoyt patent was introduced and sold. This structure has not been in the Northwest since. I do not know whether the manufacture of it has been discontinued or not, but am very certain that it would not be favorable now in the market, especially in the Northwest states.

Q. 4. As to the other structures illustrated in the other patents referred to by Mr. Bond, do you recollect seeing any

grain drills manufactured and sold which you would recognize as having been made particularly under any of these patents?

A. None, unless the feeding devices in use on some of the drills made and sold during the infringing period embody the principles or some of the principles shown in the Marsh patent of May 14, 1861, or the Smith & Thomas patent of February 12, 1878; and none of the drills marketed and sold during the infringing period used either of these feeds as shown and described. I have never seen a drill feed built as shown by the McSherry patent of December 13, 1864, having spiral shaped threads or corrugations on the feed roller, and do not think they have been built within my experience in grain drills, that is, since 1880.

Q. 5. Is there any particular difference between the feed device on a broadcast seeder and on a grain drill, as they have been manufactured from time to time, since you are familiar with broadcast seeders?

A. No, the Dowagiac Mnfg. Co. uses exactly the same feed on their broadcast seeders, as they do on their grain drills, and that is true of other manufacturers so far as I know.

Q. 6. About what is the percentage of the saving of seed of a grain drill over a broadcast seeder, if there is such a saving?

A. That there is a saving in seed is not a question. I have never known of a farmer sowing as much seed with a drill as with a broadcast seeder per acre, but the difference they make varies with farmers. From one and one-half to two bushels per acre is the usual amount of wheat sown with the broadcast seeder. From one bushel to one and one-half bushels is the usual amount sown with a drill. Usually the farmer who would sow two bushels broadcast would sow the largest amount with a drill, or a bushel and a half, and those who would sow the minimum amount with a broadcast seeder would sow the minimum amount with a grain drill. The larger farmers sowed one bushel per acre generally, with drills, while I was in the Northwest up to 1895; some few sowed one and one-quarter bushels per acre. The saving in seed is somewhere from a peck to a half bushel per acre.

Q. 7. Mr. Bond, in his testimony reviewed at length various catalogues of the Dowagiac Mnfg. Co., beginning with the year 1888, and coming down to the date 1904, as I remember. I will ask you if you are familiar with such catalogues and their contents, and in what way you have become familiar

with them.

A. I am familiar with them. I compiled all of them personally ,and had them printed.

Q. 8. Mr. Bond seems to draw the conclusion from his examination of these catalogues, that the prominent features about the Dowagiac grain drills which were made use of in effecting their sales, was something other than the spring pressure devices. I wish you would consider the various catalogues and what Mr. Bond has said, indicate the exact facts about such advertisements as was done of the Dowagiac drill, and in this connection, refer to the catalogue both before and after the introduction of the Hoyt patent, in so far as you deem it necessary.

By Mr .Banning: Defendant's counsel suggests that the catalogues speak for themselves, and that their language like that in any other paper or document is to be understood in its ordinary meaning and signification; and he, therefore, objects to any construction or attempted construction contrary to the plain meaning of the language used. If, however, the quotations made by Mr. Bond are inaccurate in any respect, he has no objection to such inaccuracies, if any, being corrected.

A. These catalogues were made for the purpose of assisting in the sale of the goods. The protection of any patented features was not particualrly in my mind in compiling them. But as I understand Mr. Bond's evidence in regard to the spring pressure as shown in the catalogue, it is that it was not made a prominent feature of the Dowagiac shoe drill, and that but slight stress was laid on it in the matter contained in the catalogue. The catalogue of 1888 makes no mention of spring pressure, as it was not then employed. But in the 1891 catalogue which was the earliest one here showing spring pressure, there is shown the Hoyt patented structure in the complete drill on the inside front cover. Again, in the complete drill, on page 5; again, in the complete drill on page 7; again on page 10, in a large full page cut, with letters designating the different parts of the complete shoe drill section, and type matter underneath describing the different parts; again on page 12, a full page sectional view of the Hoyt structure with pressure wheels attached, with letters and word description underneath. Again, page 14, a cut of complete machine is shown; page 2 of the 1891 catalogue is devoted to a brief review of the purposes and history of grain drills,

the last clause of which is the essence of the subject, and bears directly upon the shoe pressure employed, from which I quote: "It is impossible, however, to cause uniformity of depth on uneven ground with shoes having limited action and unequal pressure upon them, such as is produced by the coil wire spring in use on some drills of this description; because with them the shoes can drop but little below the main wheels, neither can they be raised far independently; and the dropping or raising of the shoe rapidly increases or decreases the pressure exerted upon it by the spring. * * * Equal pressure may be obtained, however, by the use of long steel springs, such as are used on the Dowagiac, which not only produce uniform pressure and allow the shoes great perpendicular freedom, permitting them to ride over obstructions and ride trash freely, but they also form excellent braces to keep the shoes in line."

I call attention to the fact that this is the first catalogue issued showing the construction under the Hoyt patent. On the first page (page 2) after the introductory page, an entire page is devoted to a review of the grain drill situation terminating with the rod spring pressure of the Hoyt patent as the essential feature of the shoe grain drill. In going through these catalogues, I will not quote farther, but will call attention to pages and paragraph in type matter, where the rod spring pressure is mentioned or illustrated, and the effect produced by it. In the 1891 catalogue ,page 3, last part, first paragraph; and last part of last paragraph; page 4, the caption line, at the top of the page; page 5, caption line; page 8, the caption at top of the page: same page, the paragraph beginning with "Adjustment of Depth;" page 9, caption line.

In the next, 1895, catalogue, page 2, a full page cut showing the construction shoe and spring pressure device, with a detailed word description; page 4, full page cut of shoe and spring pressure, with pressure wheel attached. The Hoyt structure is also shown in the cuts of complete drills throughout this and the catalogues of 1896, 1898, of which there appears to be two, 1899, 1900, 1903 and 1904. I agree with Mr. Banning in his objection that the catalogues speak for themselves. The Hoyt structure is shown in each of them in the complete machine, and in all of them without exception, one or more cuts of a shoe section showing the shoe with the rod spring pressure, appears with type matter relating to it, and laying stress upon the rod spring pressure as an important feature of the drill. On the outside rear cover

of 1902, 1903 and 1904 catalogues, is a cut of a shoe section showing the shoe and rod in conjunction with the following type matter:

"Greatest success in the history of grain seeding machinery."

This is on the most conspicuous part of the catalogue, namely the outside cover and in compiling the catalogue, had I considered any other part or feature of the drill more important than the shoe and pressure springs, I would have shown it there.

There is no catalogue here between those of 1891 and 1895, there being an omission of 1892, 1893 and 1894, but will say that in all manner of advertising through those years, the Dowagiac Company did advertise the rod spring pressure a great deal, and relied upon it more than anything else in the sale of their shoe drills. As already stated, I compiled these catalogues with only the view of their assisting in the sale of the goods, and by 1895, there were seven or eight competitive shoe drills in the market equipped with rod pressure springs, several of which have since been declared infringements by the courts. From a practical business standpoint, it must be apparent that it would be a poor investment of money to expand particularly on a feature of a machine which nearly all competitors were employing; such advertising would be as beneficial to competition employing the same structure as to ourselves. So it seemed to me more advantageous to touch upon any and all points of superiority in the compilation of catalogues from 1895 on to the time of the injunction. As already stated, it was not intended, and I do not think the catalogues show that the rod spring pressure was either ignored or slighted in any of the catalogues referred to, but on the contrary, was brought out, shown and described in those catalogues, each and all of them, as the most prominent feature of the Dowagiac shoe drill.

Q. 9. I call your attention to the deposition of Mr. Clarence Pattison, and ask you to state your acquaintance with him, and over about what length of time, if any, you were associated with him in business, in connection with the Dowagiac Mnfg. Co.'s business.

A. Of course, I was indirectly associated with him throughout his employment by our company, as I have always been a stockholder, and one of its board of directors most of the time. Mr. Pattison began work for the Dowagiac Co. about 1889, in the home office at Dowagiac, Michigan. In the winter of 1890 and '91, or the fall of 1890,

he went to Fargo to assist me in the office and warehouse there as warehouse man in shipping machines and repairs. He was the repair man. The repair room was enclosed, kept locked and he had a key to it. He shipped all or nearly all of the repairs, and all or nearly all of the machines in the spring of 1891 from our Fargo warehouse. He also unloaded or assisted in unloading the goods and placed them in the warehouse. He also attended to the billing out of the goods, that is the railroad shipping bills. He did not attend to the correspondence or do clerk's work in the office. I attended to that myself, had a stenographer through the busy shipping season; used a typesetting machine myself the rest of the time. Pattison was then young, somewhere about 21 years of age. He was active and made a good help in his capacity and after a return from a short stay in Dowagiac in the summer of 1891, he again returned to Fargo in the capacity as for the preceding winter, during all of which time at Fargo, he did the same work, and held the same position, and did no other work except by special instruction. He did comparatively nothing in the way of making sales, either to farmers or dealers. I attended to the local sales at Fargo myself, and had two canvassers out, A. M. Anderson and Ed. Grover, securing orders in the country. We sold about 150 drills at Fargo in the spring of 1891 and about 200 in the spring of 1892, the delivery of which together with shipments of machines and repairs kept Mr. Pattison very busy through the day, so he and I worked evenings, he making his bills of lading and reports to Dowagiac of shipments, while I was attending to correspondence. I believe that his pay throughout was the pay of an ordinary warehouseman, namely $40.00 per month. But because of the overtime and evening work, the Dowagiac Company on my recommend, presented him with $40.00 or $50.00 additional on his return to Dowagiac in the spring of 1892. He did no road work for the company other than a couple of trips to special points, one of them to Wheaton, Brown's Valley, and Beardsley, a trip of two or three days from Fargo. Early in February, 1892, another trip also from Fargo—later in the season and after our output of drills for that year was entirely sold. This was a short trip to Grand Forks and one or two neighboring towns, for what purpose I cannot now remember, but certainly not sales or contract work, because we then had no drills to sell. His first trip through Wheaton, etc., was for the purpose of securing contracts from certain dealers at those points under instructions to see

those parties, write contracts if possible, and return to Fargo. This trip was of about 100 miles and back again, and I believe was the only contract work done by Mr. Pattison for the Dowagiac Company during his entire stay in the Northwest.

After 1892, Mr. Pattison went to Kansas City for the Dowagiac Co. and was general agent there for several years, when he resigned and associated himself with the Haworth Co., Decatur, Ill.

Q. 10. Please consider Mr. Pattison's deposition, and state whether or not he has correctly stated the situation relative to the various drills to which he has referred; also state whether or not he is mistaken as to the prominent feature or features of the Dowagiac drill thta were made use of in making sales, and indicate whether, in the discharge of his duties, he would be in position to have a satisfactory and complete knowledge of the various matters about which he testifies.

A. Without reviewing Mr. Pattison's evidence, I can say that he did not have sufficient knowledge of the comparative merits and features of competitive drills to be a salesman and his knowledge of Dowagiac drills was limited to his gleanings of experience in his warehouse work; he had no occasion to test it to know whether he could sell or not, because as stated, I attended to the sales, made at the warehouse, personally. I do not now recall a single Dowagiac drill which he ever sold to a farmer at Fargo and do not think he sold one. He may have shown the drill to farmers while I was absent at dinner or out of the office, but I do not think he ever closed a sale or took a written order.

Q. 11. Did you have occasion to send Mr. Pattison into the field, where he would see the machines at work?

A. No.

Q. 12. Did he ever make any trips or excursions of that kind which you know of?

A. No, I don't think that he ever saw a Dowagiac shoe drill at work in the field there.

Q. 13. There has been stipulated into the record some statements or remarks of yours as to the obtaining of a double shift of men, in Dowagiac, in which you remarked that it was not possible to pick up a double shift of men at Dowagiac, but that you had worked quarter overtime. Please state whether if it was desired to work the shop overtime continuously, you think it would be possible to obtain the necessary men for the extra shift at this point.

Question objected to as immaterial and speculative.

A. I meant on a day's notice or a very short notice. Of course in this or any other town, it would be possible to work a double shift of men or secure an almost unlimited number of shop workmen in a reasonable time for preparation.

CROSS EXAMINATION.

By Mr. Banning—

XQ. 14. You mean by your last answer that men could be brought in from Dowagiac to supply you with as large number as you might desire or find necessary, do you?

A. Not necessarily. For additional men to increase the force there is always some available from Dowagiac; some come from farms in this vicinity; some come from other towns; but they would not come were they to know that they were to have only a few days' or a week's work.

XQ. 15. Your attention has been called to the twelve enumerations given by Mr. Bond in his answer to Q. 11 of his deposition, in which he stated things that in his opinion were essential or important in the construction of a modern or up to date shoe drill. I wish you would look at each of these enumerations if you have not already carefully examined them, and state if it is not a fact that the things enumerated by Mr. Bond are essential or important in the construction of a grain drill at the present date to make the same satisfactory and salable.

A. I have read them through. As applied to the type of grain drills of which the Dowagiac, McSherry and the other machines are examples as mentioned by Mr. Bond just prior to his first group of essentials, I believe that they are essentials of such a construction; but I believe and what I tried to make clear in my direct evidence, was that such a grain drill might embody all of those essential features and still be useless in some localities under certain conditions; that such is true as to the situation in the Northwest, and that the attempted use of drills embodying those features did not result in their adoption, and that it required still more than those enumerated essential features to make a shoe grain drill sufficiently operative and successful to cause the farmers to lay aside the machines which they had been using for many years and buy a shoe drill. It required a drill having those features named and not only the yielding spring pressure applied to the shoe, but a yielding spring pressure

of unusual latitude in its range of action without objectionable features to make an entirely successful grain drill for general use there.

XQ. 16. As I understand you then, you do not dispute the correctness of Mr. Bond's enumeration of the important or essential features but insist that in addition to them there must be something further added. Is that correct?

A. Hardly! They are some of the essentials. The other essential to which I have referred and as stated in my direct evidence, is so essential that without it the other essentials are practically valueless.

XQ. 17. In addition to the twelve enumerations of essentials given by Mr. Bond in his answer to Q. 11, I will ask you to add such other essentials as you deem necessary to make a successful salable shoe drill for use in the Northwest.

A. I will repeat in substance part of my direct evidence that the matter of degree of the yieldability of the shoe pressure spring becomes an essential in itself; possibly not an essential feature, but nevertheless an essential.

XQ. 18. In Mr. Bond's eighth enumeration, he mentions among other things, "A yieldable pressure acting on the runner, and allowing the runner to ride over obstructions and to enter depressions" and in his ninth eumeration, he mentions among other things, "an adjustable yieldable pressure acting to regulate the depth of the furrow and allow the runner to ride over obstructions and enter depressions;" and in his tenth enumeration, he mentions among other things,

> "a yieldable pressure on each runner, allowing the runner to rise and fall independently as required for uneven ground."

and in his eleventh enumeration, he mentioned among other things,

> "a spring furnishing a yieldable pressure upon the runner."

What more do you desire to add to the quality of the yieldable pressure mentioned by Mr. Bond in his eighth, ninth, tenth and eleventh enumerations?

A. Had Mr. Bond said *any* obstructions and *any* depressions in the ground where possible to work a grain drill, instead of simply "obstructions" and "depressions," that would have covered the essentials so far as unevenness of surface is concerned, but would not then have covered the essentials of a shoe drill for a particular tract of ground, and

for comparative uniformity of depth of furrows. A yielding or flexible pressure spring to properly accomplish that must be one sufficiently yielding and flexible to allow the shoe to rise and pass over an accumulation thrown loose and to follow the uneven surface of the ground without material variation of the pressure upon the several shoes.

Adjourned until 1:30 p. m.

Met pursuant to adjournment, at 1:30 p. m.

Answer continued: Of course a spring which would permit a shoe to ride over any obstruction would include trash as well as stones or clods, but what I wanted to state was that a spring which would ride over clods and stones or rather permit the shoe to do so might not permit the shoe to ride over trash even though its elevation in doing so would be much less. What is necessary in a spring for a shoe to allow the shoe to ride over trash is comparative uniformity of pressure, somewhat like that produced by a weight. A short or stiff spring in which the pressure is increased 25 pounds in an action of the spring of one or one and one-half inches does not allow the shoe to ride trash, but the shoe with such a spring would shove the trash in front of it and will not rise sufficiently to pass over the trash.

XQ. 19. Mr. Bond in his twelve enumerations of essential features and combinations, refers to various patents which he says show or disclose them—some in one and some in another. I do not understand that you differ with Mr. Bond as to the fact of the disclosure of the things which he mentioned in the patents which he refers to, but that notwithstanding the presence of those things in such patents, machines built under them for one reason or another, were unadapted to the conditions that exist in the Northwest. Have I understood you correctly?

A. That is substantially correct; but the conditions under which those structures could not do good work are not confined to the Northwest.

XQ. 20. After his twelve enumerations of essential features Mr. Bond referred to a number of other features under the letters a, b, c, d, e and f, and says that they are valuable features of construction, and that they no doubt contribute materially to the salability of drills employing them. I will ask you to look at these features enumerated

by letter and say whether or not you differ with Mr. Bond in reference to them, or any of them.

A. These features indicated by the letters a, b, c, d, e and f are not necessarily advantages in the construction of a grain drill, but are such features as are usually alluded to in advertising matter called "talking points." In a, wide tires for carrying wheels are an advantage on mellow ground, but in fact are not an advantage in soft sticky mud. The wheel would sink into the mud whether the tire is wide or narrow—the wider the tire, the more mud that will adhere to it. There are different degrees of dampness in the wet soil. When it is in a doughy state, say after a rain which has saturated the surface two or three inches with reasonably dry or hard ground under that moist surface, wide tires are an advantage; but most farmers like to get all they can for the money and wide tire wheels on grain drills are a talking point with most manufacturers.

Under b, an axle made of cold rolled steel is a very little used, although often claimed by manufacturers. Hot polished drawn steel is generally used. It is stronger than the cold rolled steel and costs less, although it can hardly be distinguished from it in appearance. Cold rolled steel shafting is supposed to be perfect in shape; that is, so that a ring nicely fitted to it would slide freely from one end to the other. Hot polished steel is quite uniform in size, but not as perfect as the cold rolled.

Under c, ratchet hubs for both carrying whels is another talking point—of no value nor importance whatever when driving the drill in a straight line, and only comes into play when turning one way or the other. Now, supposing a drill was to be turned in a circle twice its width. One wheel would, of course, stand still; the one describing the circle would turn all of the feeds at the same speed. The feeds near the outer edge of the circle would sow nearly the same per square foot of surface as in straight way seeding; while the feed nearest the stationary wheel would sow the same quantity of seed as the feed nearest the traveling wheel and would cover probably less than one-tenth of the ground surface; so that ratchet hubbed wheels do not cause the even distribution when turned and are useless in straight way seeding. Another way of equalizing the distribution without ratchet hubs is cutting of the feed shaft in two in the center and driving each half from the main carrying wheels. Nevertheless, the ratchet hub is an advantage in selling, if not in practical use any better than a feed shaft cut in two

in the center.

Under d, a land measure enabling the operator to ascertain the quantity of the land planted is a feature of but little value to the user of a seeding machine. They do not accurately measure the land even if the operator is careful in making the laps. Take for example a main wheel three and one-half feet in diameter; an accumulation of two inches of earth on the tire makes the traveling diameter of the wheel 46 inches instead of 42, and the land measure will record as if the wheel itself were 46 inches in diameter.

Under e, a hitch to relieve the necks of the horses from weight is so common that I know of hardly an exception. There must be some weight on the horses necks to keep the ends of the poles steady. A perfect balance cannot be maintained. The whole structure is balanced on an axle between two wheels and to properly balance when the furrow openers are in the ground, the front end of the pole will tilt up when the furrow openers are raised unless the furrow openers are balanced under the axle.

Under f, setting the runners to ride on the point or heel is an advisable feature or thing to do for certain ground and conditions but is not an advantage in sandy soil or light, well prepared ground. In advertising agricultural implements, a manufacturer is practically compelled to claim what his competitors claim or the farmers are likely to think that his machine does not possess them. For instance, force feeds were advertised for twenty years after all other styles of feeds had been abandoned and force feeds used exclusively. So it is with low hitch to take the weight off the horses' necks, and many other things about a grain drill.

XQ. 21. How about setting the runners to ride at the point or apex of the heel end, in the Northwest territory?

A. For general use, one year with another, it is a good feature.

XQ. 22. Irrespective of the real value or advantage of the features enumerated by Mr. Bond under the letters a, b, c, d, e and f, have they not all been points that the sellers of shoe grain drills have emphasized and held out as inducements to effect sales?

A. Yes, all of them by different manufacturers.

XQ. 23. Are they not points which have been mentioned in the catalogues or advertising matter of the Dowagiac Mnfg. Co.?

A. Possibly all of them, some of them, I know have been.

XQ. 24. I believe your sales of shoe drills for the year 1902-03 were 1861 shoe drills. This about correct, is it not?

A. I think so.

XQ. 25. I wish you would kindly state in a general way whether the sales of shoe drills by the Dowagiac Company for the years 1903-04 and 1904-05 were larger or smaller than for the year 1902-03.

A. I believe they were somewhat less.

XQ. 26. In his answer to Q. 22, Mr. Bond quoted quite copiously from your catalogues, and then stated that "the foregoing quotations from the various catalogues point out and designate many valuable and essential features of a construction pertaining to the Dowagiac shoe drill and which it would appear from the quotations, the manufacturers of said drill considered necessary and important to the construction of the drill, both as regards its operativeness and practical working and its salable qualities." Do you desire to take any exception to this statement of Mr. Bond?

A. Well, yes. It does not necessarily follow that because of features and parts of a machine being mentioned in advertising matter that the seller of the goods considers them especially valuable or advantageous features, because advertising is gotten out to sell goods and anything is included which will be of most weight in selling, regardless of the real merit of the features of the goods. If all consumers were well posted, then it might follow that those points most prominent in the advertising matter would be those considered by the seller as most valuable in the make-up of the article. Now, for instance, about 1896 to 1898, the Van Brunt Co., and some others laid so much stress upon their steel frame in their advertising that it might appear from their advertising that the steel frame was practically all there was to a grain drill; whereas wood frame Dowagiac drills were as durable so far as the frame was concerned as any steel frame could be. I have never known one of them giving out before the rest of the construction was worn out; and any good ash wood frame is considerably stronger for the same weight than a steel frame ever yet produced, and although thoroughly convinced that there was no real merit in the steel frame, the popular demand for steel frames prompted the Dowagiac Company to build such frame, and to join with the rest in advertisnig it. In the Dowagiac catalogue for 1899, some drills are shown having steel frames, and the type matter on page 11 of that catalogue refers particularly to the Dowagiac steel frame, and is quoted

by Mr. Bond at page 343 of Defendants' printed record. This is one instance of advertising what will, or those features which are most likely to sell the drill, regardless of their real importance to the construction.

XQ. 27. Have you not in your experience found as a matter of fact, that many grain drills have been sold on talking points which related to features that in your judgment were really of little importance, so far as real merits and essentials of the drill were concerned?

A. Oh, yes, a good salesman can sell poor goods, and he of course makes use of all the talking points possible, but in the long run, true merit is what wins and the best machine in all ways considered is what brings results ultimately.

XQ. 28. I find in your 1895 catalogue and in your 1898 catalogue a little statement referring to the salability of all sorts and qualities of shoe drills, reading as follows:

> "There is no machine so poor but what some are sold; there is no machine so worthless as to have no admirers; there is no machine so good as to secure the entire trade."

And in your 1900 catalogue apropos the salability of machines of all sorts and kinds I find that you make this statement, do I not, namely,

> "No machine is poor enough to have no friends, none so worthless as to find no sales; no machine is good enough to please every one; none so perfect as to secure the entire trade."

A. Yes, those expressions are there. As already stated, a catalogue is gotten up for the purpose of selling the goods. That is kind of a "catch phrase," or phrases, and while substantially true, it does not follow that goods regardless of merit will divide the trade equally.

XQ. 29. You have referred to the absence of the complainant's catalogue between the years 1891 and 1895. The absence of those catalogues is due to the fact that you were unable to find copies of them to supply to the defendants, is it not?

A. Yes, that is true, and I noted the absence of them in my answer because of the fact that I put more stress on the rod spring pressure in our catalogue up to about 1894 or '95 than later, when there were some seven or eight infringing spring pressures, and drills having rod pressure springs now in process of litigation, so it seemed to me not advisable to devote much space in the catalogue to a feature

which was so commonly and generally used.

XQ. 30. You have been asked about the testimony of Mr. Pattison and as to his work and duties. Mr. Pattison has testified about some trips which he says that he made, particularly in his answer to XQ 112. Please look at that answer and the several questions and answers following that in which he tells about his trips and tell us whether or not you have any data such as letters, expense books, or similar matters to show that Mr. Pattison did not make the trips enumerated by him?

A. I have not looked for his expense books, and believe that they are not in the files at Dowagiac, but will look. It is probable that they were in the files at Fargo and burned in the big fire of June 7, 1893, which included our warehouse. As to his answer to XQ 112 he did make the trip to Wheaton, Graceville and Brown's Valley, as I have already stated in my evidence. I note in Mr. Pattison's answer, is stated Grassville and Brown's Vale. Doubtless this is a clerical error and it was intended for Graceville and Brown's Valley. His second trip which I also mentioned in my evidence today, was to Grand Forks and towns in that vicinity, was, as is referred to by him as beginning on the 25th of February and continuing to the 30th, inclusive. I stated in my previous evidence relating to that trip, that I could not recall for what purpose, but it now occurs to me that we were practically sold out of drills, but the trade had run to the larger sizes, 20 and 22-shoe drills. We had orders for more of those sizes than we could deliver prior to April 1st. The trade bunched and orders came in at the rate of a 100 or more drills a day during the middle or latter part of February, and I tried to clean up by placing the 13 and 15 shoe-drills, of which we had a surplus, on the orders coming in calling for larger sizes, and I now think that Mr. Pattison went out to see these customers in an effort to get them to take 13 and 15-row drills in place of the 17, 20 and 22-row drills, which they were calling for. These are the two trips mentioned by Mr. Pattison in his answer to XQ 112, and are the same two trips to which I testified earlier today.

XQ. 31. When you were absent from the office in Fargo, did you not leave Mr. Pattison in charge?

A. I was not absent from there during the busy season of January, February and March. I could not leave there because I had the correspondence, letters and telegrams to attend to, in addition to the retail trade, which was large and also had a general supervision or charge of the

Minnesota territory covered by general agent, T. J. Hassett. stationed at Minneapolis, with headquarters at Security warehouse. Because I was unable to get away from Fargo, I sent Mr. Pattison out on the two trips referred to.

XQ. 32. Did not Mr. A. M. Anderson, one of your canvassers, state to you on or about Feb. 1, 1892, at your office in Fargo, that the shoe drills did not have enough pressure to satisfy some of the customers in his territory, and did you not go into the warehouse with him and instruct Mr. Anderson and Mr. Pattison to make some changes in the style of the machine?

A. I think not. I think the year should be 1891, about which time there was some apparent necessity for more pressure, and as already stated in my evidence, we changed the lift lever socket so that the shaft would have more throw, on the sample drill, notified the home office, and a change was made in the lift lever and socket to allow the rockshaft that much more throw, and the lift lever was bent backwards at the top edgewise, to prevent the striking of the grain box when extreme pressure was applied, as I have previously stated in my evidence. The pressure has not been changed since the 1892 structure was put out, and it is still in construction on our drills.

XQ. 33. Are not your disk drills equipped with coil spring pressure instead of parallel rod spring pressure. I mean those sold in the Northwest.

A. Yes, because owing to the angle of the disk, it would be difficult or impossible to spread the pair of rod springs wide enough to go each side of the disk and disk boot without interfering with the disk scrapers unless they would lap over each other in six inch, row drills. And a rolling disk does not require the action of pressure springs that the shoe does, as the tendency is to roll over the trash naturally.

XQ. 34. What size of coiled spring do you use on your disk drills if such size is represented by either one or the two that you produced here for tests on this testing apparatus and which are marked "Dowagiac Light Pressure" and "Dowagiac Heavy Pressure?"

A. We have used each exclusively in the past, but we are now using the light pressure spring on the drills for spring seeding in the Northwest and the heavy pressure for falling seeding in the middle states and the southwest .

XQ. 35. The long rod spring pressure proved unsatisfactory, on your disk drill, did it not?

A. No, its action was good, but the difficulty was in the

attaching it in a way which would not interfere with the disk scraper.

XQ. 36. The Hoyt spring pressure device of the patent suped on was not made just in the form shown in the patent after the first year or two, was it?

A. No, 7-16 spring rods were used after 1891, and were bent differently to connect at the front end with the draw-bars, as shown in the exhibit "Fowle Spring Tester," and as shown in the catalogues.

XQ. 37. Has it not been your experience as a manufacturer of machines and devices that almost invariably mechanical changes and modifications of various kinds are required, instead of following literally the drawings of the machine in the patent, in order to make them work in the best and most satisfactory way?

A. That often occurs; but there are exceptions, of which this rod spring pressure has been an entire exception so far as its working qualities are concerned, the cause of the change from the 1891 to the 1892 connection of springs to the draw bars, was because breakage of the castings used to form that connection. If malleable iron had been used from the start, there would have been no breakage, and no change would have been made in this respect. I say there would not have been, because malleable irons were in fact made to replace the gray iron ones and the malleable ones did not break.

XQ. 38. Generally speaking, when it comes to manufacture machines shown in the drawings of patents, it is necessary to make mechanical changes and modifications to make the principle of the machines most effective in use, is it not?

A. It is often so.

CROSS EXAMINATION CLOSED.

CHARLES L. FOWLE.

Complainant's counsel desires to enquire of defendants' counsel if there are any features of the McSherry drill on which patents are now in force or were in force during the infringing period that are dated prior to the Hoyt patent here in suit ,and further if there are any other junior patents on defendant's device other than the Swope and Moehring device which patents relate to defendant's second or new

structure, which is in some way identified in the opinion of the court of appeals.

Defendant's counsel replies that he has not been advised of any and knows of none.

Defendant's counsel requests complainant's counsel if he is in a position to do so, to inform him whether the recovery which is sought in this case is intended to be predicated on a claim for profits or a claim for damages, or both.

Complainant's counsel remarks that in his judgment the record shows that the defendants have derived profits on account of the sale of the infringing structures, but that the proofs shown that the complainant has been damaged beyond the loss of such profits as have been acquired by the defendant, and that the claim is for some sum adequate to compensate the complainant for its loss, and therefore, that the claim is for a profit, supplemented by damages sufficient to cover the entire damages, which would include both profit and damage.

DOWAGIAC

Accounting Schedules

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Complainant's Exhibit "McVicker Working Papers, 1891-2", Pages 1 to 6 represent the tabulating necessary in analyzing merchandise account for that year, the totalsofwhich were used partly on Exhibit 3 and partly on pages 7 and8 of these "working papers."

On Page 7, together with result of analysis of merchanidise account are grouped various costs and expenses to obtain their respective totals, and 03-/594 per cent of same are shown as being the proportions belonging to grain drills for 1891-2.

At bottom of page are calculations with the end of determining proportion of expense and supplies to labor and material which was used in making further calculations in regard to material in process under inventory heading on page 8.

aAt the top of page 8 appears figures representing manufacturing expense and supplies, material andprocess in inventories of 1891 and 1892. Below same appears calculations made to determine the cost of material used, also labor, expense and supplies at results of calculations made for Exhibit 2 before same were adjusted. These are shown in comparison with the amounts derived from figures shown on page 7, together with the percentages that would be required to add to the figured costs as ... per Exhibit 2.

6/30	Real Estate	Machy. & Tools	Bad Accounts.
1891	3,372.71	5,629.69	32.69)
1892	7,434.79	5,644.45	9,930.86)
1893			12,460.77
1894		1,176.00	16,199.86
1895		1,113.62	20,538.95
1896	1,922.59	3,663.80	3,581.49
1897		2,342.85	7,278.59
1898	3,766.09	6,968.86	4,420.65
1899	8,629.54	9,733.45	4,692.43
1900	3,556.15	8,474.08	1,473.55
1901	453.06	6,447.54	152.59
1902	1,586.19	8,841.62	984.69
1903	988.87	6,047.96	4,778.64
1904	1,520.10	6,604.52	2,111.41
	33,439.09	72,888.44	40,091.01
	2,368.51	5,206.32	3,063.93
		35,000	
		.06	
		2100.00	

1

Analyzed from Mdse. Acct.

Mfg. Exp. & Supplies	Repairs Free	Mat'l. Dr.	Labor	Matl. Dr.	Matl. Dr.	Matl. Dr.	Matl. Cr.
5.	1.25	512.73	14.80	5,494.47	11,384.25	15,482.19	.60
21.70	1.63	7.24	16.50	324.50	43.35	12.95	22.75
14.81	.90	183.84	1,251.85	218.63	7.72	59.80	.36
32.00	3.57	35.96	3.00	15.60	74.02	.10	.25
4.61	1.50	163.98	5.00	1,121.90	2.67	36.00	1.22
4.00	.75	153.90	3.00 → 3.00	.65 → 55.40	83.90 → 9.65	53.88 → 500.00	2.45 → .25
16.11	9.60	195.70 ← 131.59	1,547.48	17.79	28.00	3.03	29.80
4.42 → 3.00		87.00	47.75	11.88	4.55	21.36	88.99
15.64		94.35	2.15	33.95	.35	63.75	2.19
4.38		130.58	8.12	231.76	198.64	14.91	.51
3.75		.35	24.60	64.84	315.64	22.95	.60
94.40		4.35	1,603.70	216.10	37.30	315.84	142.40
13.29		263.81	55.25	2.15	15.90	425.25	2.38
32.50		2.08	1,589.98	33.47	51.09	15.11	75.42
1.56		1.05	1.70	58.65	5.65	48.00	11.88
33.92		107.46	1.90	3.75	208.13	6.23	5.29
.75		52.52	3.42	45.88	4.50	632.80	2.35
8.00		69.94	5.00	71.40	6.33	434.04	7.94
.75		53.90	1,703.98	72.08	6.06	43.00	13.20
17.82		124.76	2.50	87.92	33.55	2.93	324.50
4.00		5.00	10.50	412.50	18.00	33.75	19.60
63.00		2.59	.75	.66	55.78	31.98	22.40
62.33	Cash Discount	98.70	5.00	33.94	6.05	201.68	6.00
3.89	Allowed	65.25	1,771.55	20.00	4.13	140.75	.34
.50	29.70	4.91	13.65	65.26	15.60	100.00	4.30
4.25	3.00	163.62	5.00	324.50	8.75	11.55	8.00
4.42	3.00	11.56		4.33	32.51	1,351.86	6.00
5.25	3.50	309.35	9,675.11	2.14	32.00		.09
5.25	4.25	108.84		427.94	4.00	20,064.39	2.39
3.75	3.00	20.16		.30	280.90		20.64
61.36	3.50	7.60		22.72	85.14		33.75
2.25	7.25	103.27		463.05	320.00		
9.22	15.00	18.90		6.48	326.44		860.84
4.25	6.18	133.76		152.32	21.29		
2.25	6.74	66.92		156.28	8.80		
86.04	2.62	26.02		1.40	25.35		
96.99	15.00	66.00		20.05	92.44		
70.92	5.30	25.76		398.28	4.25		
4.34	5.30	16.25	Mfg. Exp.	75.00	16.63		
4.00	2.63	600.78	& Supplies	3.14	593.54		
4.25	5.25	5.75	603.65	5.68	239.87		
16.13	6.00	6.40	105.60	30.60	433.94		
4.34	3.75	67.56	4.07	122.77	5.00		
7.36	2.40	142.91	.85	10.50	101.20		
4.29	3.75	11.88	4.25	20.10	156.48		
4.25	5.25	176.24	9.24	39.00	37.00		
25.11	6.05	66.00	6.09	330.00	23.52		
2.65	8.00	781.40	.47	33.52	12.14		
603.65	2.69	5,494.47	703.56	11,384.25	15,482.19		
	16.13						
	6.51						
	179.75						

Mfg.Exp.& Supplies	Repairs Free	Analyzed from Misc. Acct. Cash Discount All'd.	Labor	Mat'l.Dr.	Mat'l.Dr.	Mat'l.Dr.	Mat'l.Cr.
703.56	9.60	179.75	9,675.11	19,203.55	27,403.39	32,582.24	.25
1.85	.64	29.25	11.55	24.32	69.18	110.65	3.14
7.50	.57	14.72	9.56	2.62	17.24	55.93	.70
210.00	.75	3.20	9.50	32.35	70.36	204.66	18.80
4.04	.75	3.00	5.00	93.75	70.00	8.74	3.78
4.20	2.00	2.62	1,874.62	30.29	70.00	271.44	3.30
5.67	2.50	33.27	1,899.55	7.40	149.25	171.43	
4.46	.25	8.62	5.00	833.31	10.00	22.26	20.97
4.25	.68	15.00	10.00	227.99	44.00	36.22	
18.09	2.33	9.94	5.00	15.30	4.78	348.38	
9.24	.95	2.62	16.25	66.81	14.20	113.34	
4.25	2.93	3.50	2.50	668.66	471.74	58.82	
4.25	2.44	3.26	15.50	1,341.27	473.26	76.88	
10.50	.55	3.88	10.00	67.46	69.84	263.93	
4.34	1.20	6.75	30.00	136.48	247.39	190.78	
4.48	.25	2.62	1,963.37	3.52	50.27		
5.25	2.25	1.25		7.96	54.36	34,515.70	
7.31	2.65	5.62	15,386.91	300.00	83.36		
3.40	2.70	30.77		117.29	274.01		
5.00	.45	14.65		13.14	29.43	Cash Discount	
14.51	.75	7.87		55.33	24.90	Allowed	
7.92	8.22	9.00		68.44	8.10	737.64	
4.20	1.97	21.86		7.62	461.46	11.84	
4.25	.62	2.81		32.35	6.38	2.83	
100.00	.30	4.05		450.51	12.20	15.00	
4.25	3.87	6.47		10.87	117.80	16.87	
4.25	2.11	6.24		33.11	3.78	5.25	
5.00	1.58	15.83		20.64	237.00	38.00	
15.50	3.40	2.65		70.09	241.66	2.87	
2.05	4.20	6.00		68.76	15.80	1.35	
4.25	6.77	121.24		70.06	51.77	9.75	
3.89	4.23	3.00		68.44	22.36	12.25	
4.25	5.25	56.64		16.45	125.59	3.50	
	9.94	8.63		82.80	60.52	8.63	
1,070.04	19.20	3.04		441.87	92.00	2.84	
	2.20	10.00		51.68	46.12	5.00	
	15.64	2.63		6.00	3.00	5.00	
	2.90	21.63		80.64	40.03	3.75	
	30.26	2.62		4.26	118.21	45.30	
	.87	3.00		5.25	45.31	3.00	
	.56	5.81		3.08	5.50	3.00	
	2.28	5.00		1,624.78	115.17	1.68	
		2.62		92.15	49.35	5.00	
	163.56	2.82		30.72	696.92	1.37	
		5.32		353.39	24.94	.31	
		15.19		316.00	17.40	3.03	
		6.11		82.82	31.24	10.00	
		3.02		35.56	134.76	4.62	
		2.25		24.25	100.09		
		737.64		27,403.39	32,582.24	959.68	

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Mfg. Expense & Supplies	Repairs Free	Analyzed from Mdse. Acct. Cash Discount Allowed	Analyzed from Mdse. Acct. Labor	Mat'l.Dr.	Mat'l.Dr.	Mat'l.Dr.	Mat'l.Cr.
1,070.04	163.56	959.68	15,386.91	34,485.73	44,666.59	54,452.56	22.95
1.13	1.80	2.50	3.00	44.47	4.13	1.95	3.50
4.25	3.38	7.50	2,125.24	5.74	286.18	332.98	29.45
4.25	.80	2.20	5.00	7.50	227.47	673.77	5.69
18.48	11.25	2.81	3.13	66.80	1.07	289.54	1.79
4.00	5.75	2.48	1.75	112.13	1.97	369.72	29.45
13.50	3.37	2.38	.45	92.92	255.27	15.30	266.40
3.85	.56	9.90	5.00	118.97	395.00	72.45	24.08
23.08	8.40	5.00	2,361.31	214.96	611.50	419.42	.50
32.27	2.25	26.42	3.12	22.80	724.11	85.99	1.90
4.25	14.92	7.33	2.25	31.05	277.95	21.50	15.07
4.25	2.10	7.42	1.50	273.09	129.61	14.15	.02
4.20	8.66	6.83	6.88	29.45	936.70	49.83	.86
9.00	9.64	6.00	14.88	821.40	40.00	.30	1.90
29.72	3.75	6.00	2,061.14	154.43	14.48	9.77	5.00
4.25	2.80	2.47	2.00	67.44	104.00	607.75	.10
2.24	16.09	1.05	.75	124.51	347.70	112.12	2.19
7.50	.38	2.47	2.85	431.66	72.00	136.39	2.56
6.00	1.17	.7.27	6.87	817.05	29.45	323.28	1.34
4.25	3.75	19.66	1.50	585.50	.44	316.00	.67
12.85	1.91	86.55	1.70	15.00	189.59	64.95	2.00
4.20	.75	4.13	2,425.26	18.00	287.34	29.77	1.50
4.25	.73	2.93	1.25	5.66	710.80	10.66	2.38
8.39	4.50	18.56	5.00	142.89	26.10	12.59	2.76
7.50	6.31	2.48	1.75	93.96	8.75	11.10	142.72
4.25	6.90	2.48	1.25	236.73	2.15	.25	
4.04	43.31	28.73	7.13	237.04	21.13	375.53	566.68
10.36	.77	2.54	1.25	27.82	30.22	2,800.00	
34.53	.34	2.47	2.50	465.63	15.60	98.77	
112.61	2.40	2.84		448.11	10.40	67.46	
2.35	2.25	17.11	24,420.38	91.87	337.54	8.94	
.75	3.92	5.00		780.37	339.25	316.00	
18.63	.75	19.00		575.58	41.35	101.87	
4.25	1.11	20.00		463.74	66.00	675.68	
4.25	1.25	14.87		21.00	811.72	58.08	
6.00	3.90	3.69		550.74	827.17	343.12	
43.34		3.22		123.36	20.10	476.62	
33.29	345.08			34.38	62.56	44.51	
4.25		1,323.97		5.61	6.32	141.27	
5.00				215.93	28.60	.63	Mfg. Exp.
19.75				316.00	27.01	2.50	& Supplies
210.00				273.00	27.83	613.85	1,655.80
24.66				424.48	321.78	60.18	146.00
4.08				16.20	94.23	843.34	4.12
43.24				110.14	915.88	15.90	4.25
4.25				135.47	60.00	19.02	25.92
4.63				47.74	16.25	26.94	5.30
4.25				131.82	13.63	261.48	502.81
4.24				130.75	7.64		
1,855.80				44,666.59	54,452.56	65,735.76	2,544.20

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Analyzed from Mdse. A/c.

Mfg. Expense & Supplies	Repairs Free	Cash Discount Allowed	Labor	Mat'l.Dr.	Mat'l.Dr.	Mdse. Dr.	Mat'l.Cr.
2,544.20	345.08	1,323.97	24,420.38	65,169.10	80,699.87	93,610.98	1.26
1.00	8.50	.31	6.86	1,077.36	37.55	113.55	1.57
4.25	6.50	252.57	2.00	40.55	399.90	153.99	1.33
71.83	.31	6.97	6.00	2.42	75.66	36.05	56.64
85.75	1.57	61.13	3,022.17	62.76	32.54	612.95	71.47
4.85	.58	58.00	2.50	761.18	524.16	677.64	90.75
4.20	7.65	7.50	2.00	375.52	63.25	110.87	1.52
4.25	25.50	6.97	3.74	7.47	1,433.02	583.22	1.42
12.16	.49		1.75	90.35	115.02	4.75	1.52
75.46	.82	1,717.42	.25	656.93	219.01	1,337.69	1.52
6.00	.23		21.06	81.83	614.99	43.90	1.40
1.35	.19		21.06	239.47	298.12	784.89	2.57
8.08	.23		3,376.38	.75	16.25	5.53	1.90
10.00	.21		.26	574.66	48.92	69.81	29.45
6.15	.68		2.00	3.22	229.15	823.54	4.59
4.25	.56		2.00	65.64	234.01	40.00	1.52
.38	22.95		2.53	2.25	95.00	36.98	2.09
4.25	1.39		3.75	88.08	32.52	536.92	2.45
7.95	4.05		2.50	399.51	510.00	3.33	.77
1.68	.60		1.50	449.72	22.17	475.55	2.33
.50			20.50	17.27	37.93	15.39	1.62
8.53	428.09		17.50	20.17	551.60	37.05	1.81
3.85			39.00	109.36	140.62	71.44	.70
4.59			23.00	45.30	131.95	68.25	1.90
4.95			3,612.71	2,343.54	1,497.24	17.55	1.05
8.50			19.50	858.47	193.04	379.15	
4.16			2.20	782.65	227.74	23.16	7.20
.25			3.37	141.89	31.11	200.78	2.09
8.36			8.25	86.36	218.08	400.80	1.75
.90	Mat'l.Cr.		15.20	870.10	2.20	12.00	2.38
50.30	22.63		8.75	586.48	144.95	523.52	2.10
100.20	2.23		9.75	266.33	641.51	761.00	1.23
6.95	2.28	Mat'l.Cr.	4,168.31	59.23	226.07	188.23	2.24
12.50	1.38	487.04	4.80	.35	124.20	161.60	2.57
4.24	1.75	1.37	5.31	450.49	402.50	40.53	2.00
3.39	3.21	1.72	1.87	711.12	407.48	227.50	1.28
10.00	2.32	.93	1.50	560.40	31.68	475.03	1.26
56.95	.65	1.84	4.25	654.25	283.94	125.00	2.00
4.51	1.97	.57	5.00	596.05	51.47	671.07	1.47
3.96	1.50	63.46	8.75	491.46	21.14	6.64	2.45
12.66	.84	.35	4.37	121.54	1,215.98	1.74	2.28
5.00	2.57	2.76	3.00	20.57	401.64	145.20	1.80
.25	1.68	.75	8.61	378.06	31.50	86.39	4.75
32.38	22.60	3.59	6.25	292.09	124.32	72.97	1.75
7.50	378.17	4.87	13.75	31.80	562.12	4.79	2.67
3.86	20.30	3.50	19.87	18.49	17.87		3.63
8.25	16.80	3.06	22.88	.30	.60	1,04778.92	1.52
	2.45	3.04	16.50	4.40	159.06		2.25
	1.71		28.75	2.56	28.11		40.35
3,081.87	487.04	578.85	38,910.11	80,699.87	93,610.98		378.17

Analyzed from Mdse. Acct.

Mfg. Expense & Supplies	Repairs Free	Cash Discount Allowed	Labor	Mat'l.Dr.	Mat'l.Dr.	Mat'l. Dr.	Matl. Cr.
3,081.87	428.09	1,717.42	38,910.11	104,200.07	116,454.44	12,772.26	.78
23.82	.15	1.15	18.25	42.63	902.23	4.85	31.06
6.75	11.70	3.18	43.04	50.24	64.20	389.89	49.28
1.00	59.82	.24	2.50	485.50	.41.83	1.65	3.04
4.13	.19	72.74	4.38	8.62	278.97	545.00	2.27
30.00	1.50	33.70	3,789.06	1,070.66	33.95	131.87	4.00
21.60	1.25	55.65	3.30	418.16	116.36	1.22	1.52
12.92	11.63	484.48	8.94	307.02	713.98	157.80	.40
31.18	1.50	30.93	24.90	311.54	38.00	587.48	
2.10	4.05	52.29	24.00	53.48	77.38	606.48	.40
12.00	9.00	74.91	70.82	725.52	33.35	33.28	1.45
31.00	21.15	75.00	41.70	32.55	317.58	101.65	.57
	7.31	14.99	64.50	11.84	1.53	16.29	.40
8.72	2.25		20.45	237.60	392.61	11.90	6.64
16.20	7.43	2,616.68	108.02	2.20	65.86	108.86	69.71
33.75	1.35		36.13	73.25	785.78	37.26	.80
102.50	.60		1,473.23	96.27	365.60	3.50	.72
49.77	.19		8.30	1,074.95	696.83	305.57	.64
6.68	.90		4.00	309.37	277.16	9.65	179.46
.60	6.57		1.50	214.15	52.98	2.52	22.62
17.00	5.89		26.56	349.90	36.57	2.96	12.43
.50	20.52		49.33	35.60	30.72	.47	7.26
69.32	1.75		42.38	4.28	44.29	105.44	100.00
.63	2.25		39.88	906.13	159.60	2.60	26.46
56.25	60.07		39.63	75.00	1.60	35.00	.88
52.08	39.60		40.50	4.40	71.46	33.65	.80
1.83			41.00	839.97	271.42	220.10	.88
3.94	698.61	Labor	45.94	96.92	140.40	350.44	2.70
138.66		47,365.50	43.75	.82	83.88	158.38	126.86
14.10		2,902.08	40.01	463.15	128.05	280.80	61.36
8.50		28.00	60.94	229.07	67.20	52.20	23.44
7.65		24.00	48.00	40.02	504.54	410.15	.32
1.91		3.00	63.75	.38	164.68	395.04	.46
9.51		5.12	54.95	1,078.76	31.50	1.20	2.33
4.40		4.38	38.63	91.38	72.15	295.73	69.35
69.83		3.00	41.26	216.85	391.56	118.76	2.10
8.50		6.00	40.13	214.38	81.75	13.42	.40
3.79		3.13	218.83	7.23	306.73	27.90	3.25
16.80		2,133.03	107.51	4.55	33.63	456.24	1.36
47.29		5.62	3.75	255.26	878.37		3.20
4.00		36.83	6.00	89.57	838.69	133,743.46	1.84
.50			4.26	659.35	975.87		.80
4.32		18.88	7.50	22.96	81.99		1.79
2.87		.38	.50	20.80	4.26		2.25
31.50		.70	.35	69.23	4.10		3.20
8.50		2.80	2.37	3.90	471.30		2.00
24.89		2.00	9.00	846.19	129.41		12.00
4.43		3.00	1,627.36	40.15	2.75		48.00
			11.10	62.63	3.17		.72
4,060.87		52,410.69					
			47,365.50	116,454.44	127,722.28		894.20

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Analyzed from Mdse. Acct.

Mfg. Expense & Supplies	Repairs Free	Cash Discount Allowed	Labor	Matl. Dr.	Matl. Cr.		Matl. Cr.
4,090.87	698.61	2,616.68	52,410.69	132,849.26	139,825.97		289.75
3.94	5.89	13.50	17.88	370.92	324.00		1.76
7.89	1.58	.48	5.94	17.31	440.58		1.84
8.34	1.35	186.86	15.75	73.30	47.27		.29
104.40	1.80	82.13	2,403.81	310.00	340.20		3.04
9.38	90.41	330.05	30.17	15.90	301.02		.40
251.82	5.15	52.69	6.75	199.35	43.04		2.08
3.57	.75	5.70	3.75	33.66	286.20		3.60
147.15	.75	7.50	1.50	41.05	14.39		2.70
.48	5.93	26.32	2,728.08	20.00	10.80		2.48
3.75	3.95	156.12	.60	19.20	7.43		.60
3.57	110.82	283.30	15.05	15.30	54.58		2.88
2.10	.35	259.10	12.75	59.67			7.70
2.00	8.44	9.75	2.75	304.02	141,695.48		3.44
17.00	1.05	137.25		8.85	528.09		2.16
176.54	6.97	59.69	57,563.83	38.23			1.92
57.52	1.32	6.97		7.27	141,169.39		1.44
36.46	2.18	1.26		(J 7/1/91) 22.03	390.00		1.04
11.75	36.75	591.33		139.28	204.14		2.40
	23.93	10.00		229.20	778.43		7.28
4,897.95	32.29	10.00		17.04	21.52		.32
J 7/1/91) 79.05	14.62	87.00		2.43	11.80		2.88
70.76	26.85	.50		332.58	18.83		.25
278.00	12.75	21.79		33.49	5,460.07		.84
19.83	.30	8.62		633.88	962.78		3.00
95.39	1.76	84.00		875.90			2.75
41.35	14.46	30.00		246.00			.57
	2.74	70.20		10.00			2.18
5,482.33	.49	112.36		775.00	38.46		51.52
J7/1/92) 742.87	.19	23.75		24.42	267.66		98.98
	53.40	2.51		8.97	24.56		24.00
4,739.46	18.98	88.38		2.35	355.19		
	37.02	47.73		75.00	214.10		526.09
	2.25	767.65	Repairs Free	76.84			
	197.82	341.93	1,620.08	136.40	149,916.73		
	3.79	200.00	4.88	341.90	J 7/1/92	Cash Discount	
	1.02	6.00	2.25	264.30	19,196.94	Allowed	
	4.16	184.44	66.56	17.32		8,605.60	
	45.69	29.30	5.45	130.50	130,719.79	94.31	
	.38	.85	278.78	444.18		444.44	
	97.43	712.21	27.26	19.50		1,431.22	
	.97	71.85	8.22	27.42		11.36	
	3.04	7.50	164.70	139.73		565.13	
	3.46	107.04	7.05	221.63		217.28	
	2.06	32.20	3.68	3.95		824.16	
	7.50	11.25	44.10	9.57		133.33	
	2.05	49.00	9.34	7.70		149.68	
	12.82	344.93	56.53	41.16		706.99	
	2.81	315.99		44.01			
	1,620.08	8,605.60	2,298.88	139,825.97		13,183.40	

1891-2 7

Mfg. Expense & Supplies

Segregated from Mdse. Acct.	4,739.46		
" " Expense "	6,228.24		
Insurance	1,304.70		
Non-Productive Labor	2,417.75		
Interest- Investment $35,000 @ 6%	2,100.00	18,790.15	
Productive Labor			
Segregated from Mdse. Acct.		57,563.83	
Repairs & Maintenance			
Buildings 2,388.51			
Machy. & Tools 5,206.32			
7,594.83 Estimated as being included in the Productive Labor for the reason that the amounts "charged off" from Real Estate & Machy. & Tools A/cs up to year 1904 is about equivalent to the difference between appraised and book values.			
		76,353.98	93.594% 71,462.74
Material used (Mdse. A/c & Inventories)		130,719.79	" 122,345.88

Expense & Supplies to Labor & Material

Expense & Supplies as above		18,790.15		
Add repairs and maintenance		7,594.83	26,384.98	
Productive Labor as above	57,563.83			=14.802%
Less Repairs & Maintenance	7,594.83	49,969.00		
Material used as above		130,719.79	180,688.79	

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Working Papers

1891-2

Inventories		1891	1892	
Mfg. Expense & Supplies		548.38	742.87	
Material		8,747.34	19,196.94	
Process	Labor & Material	11,225.85	11,645.31	
	Expense & Supplies	1,639.20	1,700.45	14.602%
		1,639.20)	1,700.45)	
		20,557.57)	31,585.12)	

Labor, Expense & Supplies

Shoe Drills produced

410	11-6	@	6.34535		2,601.59		
588	13-5	@	6.88093		4,049.51		
713	15-5	@	8.20348		5,849.08		
948	17-6	@	9.49330		8,999.65		
697	20-5	@	10.37712		7,232.85		
575	22-6	@	11.73842		6,749.59		
105	26-5	@	12.76002		1,339.80		
				27.533%	36,822.07		
1892 Process		27.533% of		13,345.76	3,674.49	40,496.56	
Less1891 "		"	"	12,865.05		3,542.13	
						36,954.43	
				(93.381% to add)		34,508.31	71,462.74

Material Used

Shoe Drills produced

410	11-6	@	16.52153		6,773.83		
588	13-5	@	18.19807		10,700.47		
713	15-5	@	21.54599		15,362.29		
948	17-6	"	24.80691		23,516.95		
697	20-5	"	27.46095		19,140.28		
575	22-6	"	31.00779		17,829.48		
105	26-5	"	34.20981		3,592.03		
				72.467%	= 96,915.33		
1892 Process		72.467% of		13,345.76	9,671.27	106,586.60	
less 1891 "		"	"	12,865.05		9,322.92	
						97,263.92	
				(25.788% to add)		25,082.20	122,345.88
						36,954.43	
						97,263.68	
						134,218.11	
				44.398% to add		59,590.51	193,808.62

Exhibit 1, Pages 1 to 10. Tabulated results of calculations, cost of the various parts of a 11-6 wood frame and 12-6 steel frame shoe drill, 1894 to 1904, as follows: Page 1, cost of grain box 11-6 wood frame, years 1894 to 1899 and 12-6 steel frame shoe drill, years 1899 to 1904;

Page 2, cost of frame for sizes and period described above for page 1.

Page 3, cost of long pole for 12-6 shoe drill, 1894 to 1904, and short pole for 12-6 shoe drill from 1899 to 1904.

Page 4, cost of wheels for 12-6 steel frame shoe drill 1894 to 1904.

Page 5, cost of shoes and feed for 12-6 shoe drill, 1894 to 1904.

Page 6, cost of Surveyor for 12-6 shoe drill from 1894 to 1904.

Page 7, cost of pressure lever for 12-6 shoe drill from 1894 to 1904.

Page 8, cost of double trees for 12-6 shoe drill from 1894 to 1904.

Page 9, cost of neck yokes and fixture box for 12-6 shoe drill from 1894 to 1904.

Page 10, cost of 11-6 shoe grain drill, years 1891-1892, 1892-93 and 1893-94.

On pagesl to 9 the names and quantity of material are shown in the first column on the left of the page and in each column, with yearly headings are the prices predominating and the result of the calculation of said prices with aforesaid quantities. The total cost of material entering into the respective parts, as per each page, is shown under the headings for each year.

The total labor, expense and supplies being shown at the end of the first yearly column applies as well to each year thereafter.

On page 10 the first column shows names of material and the prices of same for the year 1891 and 1892, the headings across the top of the page indicate the different parts of 11-6 shoe grain drill and in columns under said heading appear, the quantities and the result of the calculations of said quantities with aforesaid prices. The total cost of material entering into the respective parts are shown at the end of each column. The labor, expense and supplies for the different parts being the same as exhibited on the bottom of pages 1 to 9 with the exception of the surveyor part which did not occur in this year.

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Grain Box — 11-6 Wood Frame

			1894-5		1895-6		1896-7		1897-8		1898-9	
Yellow Poplar	16.	ft.	2.35	37.600	2.35	37.600	2.35	37.600	2.2	35.200	2.2	35.200
"	16.4	"										
Primer	1.04	lbs.	.73	.759	.73	.759	.73	.759	.73	.759	.73	.759
Red	.875	"	14.85	12.994	11.	9.625	10.78	9.433	7.84	6.860	6.125	5.359
Varnish	.034	gal.	95.	3.194	90.	3.026	85.	2.858	85.5	2.875	70.5	2.371
Transfers	2.			6.875		6.875		6.875		6.875		6.675
Gray Iron	32.875	lbs.	1.885	61.969	1.818	59.767	1.72	56.545	1.673	55.000	1.713	56.315
"	31.375.	"										
Mall. Iron	1.406	"										
Bar Steel .10+	4.5	"	1.65	7.425	1.6	7.200	1.4	6.300	1.031	4.460	1.08	4.860
"	4.8	"										
" .60+	.937	"										
" .35+	.188	"	1.90	.357	1.85	.348	1.65	.310	1.281	.241	1.33	.250
" .45+	.031	"	2.	.062	1.95	.060	1.75	.054	1.381	.043	1.43	.044
Chain	2.125	ft.										
Spring	.014	lbs.										
Washers	.063	"										
Stove Bolts	.461	net		.461		.461		.461		4.61		4.61
Carriage Bolts	6.28	list	85-25-2	.692	70-10-5-5-2	1.500	65-10-10-2	1.745	80-5-2	1.169	80-2½-2	1.200
"	4.55	"										
Machine Bolts	15.72	"										
Rivets	.988	"										
Lag Bolts	1.16	net		1.160		1.160		1.160		1.160		1.160
Cotters	2.2	list	80 dis.	4.40	80-10-2	.388	85-10-2	.291	80-5	.418	85-10	.297
"	1.76	"										
Wood Screws F.H.	24.063	"	85-10-10	2.924	87½-2½-10-5-2	2.458	90-5-2½-2	2.184	87-10-10-5-2	2.359	87½-10-10-5-2½-2	2.212
"	15.562	"										
" R.H.	23.328	"	75-10-10	4.724	82½-10-10-5-2	3.079	85-2½-2	3.344	85-10-5-2	2.932	85-10-5-2½-2	2.859
"	32.652	"										
				141.636		134.306		129.919		120.992		120.222

12-6 Steel Frame

Continued from above			1899-00		1900-01		1901-02		1902-03		1903-04	
Yellow Poplar	16.	ft	2.2	36.080	2.2	36.080	2.2	36.080	2.5	41.000	2.8	45.920
"	16.4	"										
Primer	1.04	lbs.	.73	.759	3.14	3.266	3.14	3.266	2.568	2.671	2.548	2.650
Red	.875	"	7.84	6.860	9.065	7.932	10.29	9.004	10.29	9.004	9.8	8.575
Varnish	.034	gal.	61.75	2.076	61.75	2.076	61.75	2.076	76	2.556	76.	2.556
Transfers	2.			6.875		6.875		6.875		6.875		6.875
Gray Iron	32.875	lbs.										
"	31.375	"	1.809	36.757	1.912	59.989	1.893	59.393	2.323	72.884	2.131	66.860
Mall. Iron	1.406	"	3.25	4.570	3.25	4.570	3.25	4.570	3.83	5.385	3.68	5.174
Bar Steel .10+	4.5	"										
"	4.8	"	2.255	10.824	1.455	6.984	1.725	8.280	1.845	8.856	1.82	8.736
" .60+	.937	"	2.755	2.581	1.955	1.832	2.225	2.085	2.345	2.197	2.32	2.174
" .35+	.188	"										
" .45+	.031	"										
Chain	2.125	ft.	3.35	7.119	3.35	7.119	3.35	7.119	3.35	7.119	3.35	7.119
Spring	.014	lbs.		.450		.450		.450		.450		.450
Washers	.063	"	6.7	.422	6.7	.422	6.7	.422	6.7	.422	6.7	.422
Stove Bolts	.461	net										
Carriage Bolts	6.28	list										
"	4.55	"	60-10-2	1.605	75-10-5-2	.953	90-2	.446	60-10-10-2	1.445	70-15-2	1.137
Machine Bolts	15.72	"	80-10-10-2	4.991	80-10-2	2.773	70-10-5-2	3.962	65-10-5-2	4.610	70-15-2	3.928
Rivets	.988	"	80-10-5-2	.331	75-10-2	.218	75-10-2	.218	80-5	.188	80-10-2	.174
Lag Bolts	1.16	net										
Cotters	2.2	list										
"	1.76	"	85-10	.238	85 dis.	.264	75 dis.	.440	90-10-5	.150	90-10-2	.155
Wood Screws F.H.	24.063	"										
"	15.562	"	87½/10/5/2½/2	1.589	80-10-5-2½-2½-7½-5	2.223	90-10-5-2½-2	1.271	90-10-10-5-2½-2	1.144	87½-10-10-5-2½-2	1.430
Wood Screws R. H.	23.328	"										
"	32.652	"	75-10-5-2½-2	6.669	80-10-5-2	5.472	87½-10-5-2½-2	3.335	70 dis.	9.796	85-10-10-5-2½-2	3.801
				150.796		149.498		149.292		176.752		167.936

Crain Box Continued. 11-6 Wood Frame

		1894-5		1895-6		1896-7		1897-8		1898-9	
Amounts Forward			141.636		134.306		129.919		120.992		120.222
Nails	.156 lbs.	2.429	.379	2.429	.379	2.429	.379	2.429	.379	2.429	.379
"	.125 "										
		1.876	142.015	1.766	134.685	1.708	130.298	1.591	121.371	1.581	120.601
Total Material	76.282 lbs.										
"	74.377 "										
Labor, Expense & Supplies	1.01	77.078									

12-6 Steel Frame

		1899-1900		1900-01		1901-02		1902-03		1903-04	
Amounts Forward			150.796		149.498		149.292		176.752		167.936
Nails	.156 lbs.										
"	.124 "	2.429	.304	2.429	.304	2.429	.304	2.429	.304	2.429	.304
		2.031	151.100	2.014	149.802	2.011	149.596	2.381	177.056	2.261	168.240
Labor, Expense & Supplies	1.046	77.802									

Frame 11-6 Wood Frame — 12-6 Steel Frame

		1894-5		1895-6		1896-7		1897-98		1898-99		1899-00	
Oak	15.32 feet	2.2	33.704	2.2	33.704	2.2	33.704	2.2	33.704	2.4	36.768	2.4	16.999
"	7.083 "											2.275	95.550
Angle Steel	42. lbs.												
Primer	.319 "	5.5	1.755	5.88	1.876	5.88	1.876	5.39	1.719	4.655	1.485		
Primer	.125 "											.73	.091
Canary Yellow	.4 "	5.5	2.200	5.88	2.352	5.88	2.352	5.39	2.156	4.655	1.862		
Red	.333 "											.73	.243
Varnish	.012 Gal.	95.	1.140	90.	1.080	85.	1.020	85.5	1.026	70.5	.846		
"	.015 "											61.75	.926
Gray Iron	36.375 lbs.	1.885	68.567	1.818	66.130	1.72	62.565	1.673	60.855	1.713	62.310		
"	34.563 "											1.809	62.524
Mall. Iron	.125 "	2.94	3.681	3.035	3.79	2.619	.327	2.327	.291	2.695	.337		
"	2.5 "											3.25	8.125
Bar Steel .10+	1.813 "	1.65	2.991	1.60	2.901	1.40	2.538	1.031	1.869	1.08	1.958		
" .25+	.75 "											2.405	1.804
" .20+	2.5 "											2.355	5.888
" 1.25+	.2 "											3.405	.681
Axle Steel	34.438 "	1.455	50.107	1.60	55.101	1.60	55.101	1.45	49.935	1.45	49.935		
"	36.75 "											2.182	80.189
Pipe	5.667 ft.	4.067	23.048	4.067	23.048	3.439	19.489	3.528	19.993	3.379	19.149		
"	6.167 "											8.247	50.659
Chain	.406 lbs.	1.7	.690	1.7	.690	1.7	.690	1.7	.690	1.7	.690	1.7	.690
"	.047 "		.250		.250		.250		.250		.250		
Spring	.313 "	5	1.565	5.	1.565	5.	1.565	5.	1.565	5.	1.565		
"	.188 "												1.750
Stove & Hook Bolts	.359 Net		.359		.359		.359		.359		.359		
							17.728	60-5-2	11.881	80-2½-2	12.194		
Carriage Bolts	63.81 List	85-25-2Dis	70.35	70-10-5-5-2	15.238	65-10-10-2							
"	23.68 "											60-10-2	8.354
Machine Bolts	58.56											60-10-10-2	
													18.594
Lag Screws	4.98 Net		4.980		4.980		4.980		4.980		4.980		
Amounts Forward			198.759		209.653		204.544		191.273		194.688		353.267

12-6 Steel Frame

(Continued)		1900-01		1901-02		1902-03		1903-04	
Oak	15.32 ft.								
"	7.083 "	2.8	19.832	2.2	15.583	2.5	17.708	2.8	19.832
Angle Steel	42. lbs.	1.3	54.600	1.85	77.700	1.845	77.490	1.75	73.500
Primer	.319 "								
"	.125 "	3.14	.393	3.14	.393	2.568	.321	2.548	.319
Canary Yellow	.4 "								
Red	.333 "	3.14	1.046	3.14	1.046	2.568	.855	2.548	.848
Varnish	.012 Gal.								
"	.015 "	61.75	.926	61.75	.926	76.	11.40	76.	11.40
Gray Iron	36.375 lbs.								
"	34.563 "	1.912	66.084	1.893	65.428	2.323	80.290	2.131	73.654
Mall. Iron	.125 "								
"	2.15	3.25	8.125	3.25	8.125	3.83	9.575	3.68	9.200
Bar Steel .10+	1.813 "								
" .25+	.75 "	1.605	1.204	1.875	1.406	1.995	1.496	1.97	1.477
" .20+	2.5 "	1.555	3.888	1.825	4.563	1.945	4.863	1.92	4.800
" 1.25+	.2 "	2.605	.521	2.875	.575	2.995	.599	2.97	.594
Axle Steel	34.438 "								
"	36.75 "	1.5	55.125	1.9	69.825	2.25	82.688	1.75	64.313
Pipe	5.667 ft.								
"	6.167 "	5.5	33.919	6.187	38.135	6.125	37.773	5.321	32.815
Chain	.406 lbs.	1.7	.690	1.7	.690	1.7	.690	1.7	.690
"	.047 "								
Spring	.313 "								
"	.188 "		1.750		1.750		1.750		1.750
Stove & Hook Bolts	.359 Net								
Carriage Bolts	63.81 List								
"	23.68 "	75-10-5-2	4.980	90-2	2.321	60-10-10-2	7.519	70-15-2	5.918
Machine Bolts	58.56 "	80-10-2	10.330	70-10-5-2	14.720	65-10-5-2	17.174	70-15-2	14.634
Lag Screws	4.98 Net								
			263.393		303.206		341.931		365.464

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Frame-Continued.	11-6 Wood Frame												12-6 Steel Frame	
	1894-5		1895-6		1896-7		1897-8		1898-9		1899-00	
Amounts Forward		198.759		209.653		204.544		191.273		194.688		353.267
Cotters 8.805 List	80 Dis.	1.761	80-10-2 Dis.	1.553	85-10-2 Dis.	1.165	80-5 Dis.	1.673	85-10 Dis.	1.189	85-10	1.617
" 11.975 "												.063
Set Screws .063 Net												
Rivets .344 list	65-10-2	.106	65-10-7½-2	.098	75-2	.084	80-10-10-2	.055	80-10-2	.061
Washers .109 lbs.	6.7	.730	6.7	.730	6.7	.730	6.7	.730	6.7	.730		
Total Material												
137.816 "		1.461 20.356		1.539 212.034		1.499 206.523		1.406 193.731		1.427 196.668		2.298 354.947
" 154.45 "												
Labor, Expense & Supplies		.722 99.562										.780 120.547

(Continued)	12-6 Steel Frame 1900-01		1901-02		1902-03		1903-04	
Amounts Forward		263.393		303.206		341.931		305.484
Cotters 8.805 List	85Dis.	1.796	75Dis.	2.994	90-10-5	1.024	90-10-2	1.056
" 11.975 "		.063		.063		.063		.063
Set Screws.063 Net								
Rivets .344 List								
Washers .109 lbs.								
	1.717	265.252	1.983	306.263	2.221	343.018	1.985	306.603

Long Pole

		1894-5		1895-6		1896-7		1897-8		1898-9		1899-00	
Yellow Pine	12. ft.	2.94	35.280	2.94	35.280	2.744	32.928	2.744	32.928	2.646	31.752	2.681	32.172
Primer	.25 lbs.	5.5	1.375	5.88	1.470	5.88	1.470	5.39	1.348	4.655	1.164	4.655	1.164
Canary Yellow	.313 "	5.5	1.722	5.88	1.840	5.88	1.840	5.39	1.687	4.655	1.457	4.655	1.457
Varnish	.009gal.	95.	.855	90.	.810	85.	.765	85.5	.769	70.5	.635	61.75	.556
Gray Iron	1.5 lbs.	1.885	2.828	1.618	2.727	1.72	2.580	1.673	2.510	1.713	2.570	1.809	2.714
Wood Screws	4.72 List	85-10-	.573	87½-2½-	.482	90-5-2½-	.428	87-10-	.463	87½-10-	.434	87½-10-5	.482
(F.H.)		10		10-5-2		2		10-5-2		10-5-2½-2		2½-2	
Total Material	29.387 lbs.		42.633		42.609		40.011		39.705		38.012		38.545

(Continued from above)		1900-1901		1901-02		1902-03		1903-04	
Yellow Pine	12.ft.	2.646	31.752	2.646	31.752	3.283	39.396	2.842	34.104
Primer	.25lb.	6.37	1.593	6.42	1.605	6.419	1.605	6.419	1.605
Canary Yellow	.313 "	6.37	1.994	6.42	2.009	6.419	2.009	6.419	2.009
Varnish	.009gal.		.556	61.75	.556	78.0	.684	76.	.684
		61.75							
Gray Iron	1.5 lbs.	1.912	2.868	1.893	2.840	2.323	3.485	2.131	3.197
Wood Screws	4.72 List		.674	90-10-	.366	90-10-10	.347	87½-10-	.434
(F.H.)		80-10-5-		5-2½-2		5-2½-2		10-5-2½-2	
		2½-2½-7½-5							
Total Material	29.387 lbs.		39.437		39.146		47.526		42.028

Labor, Expense & Supplies 21.394

Short Pole

		1899-00		1900-01		1901-02		1902-03		1903-04	
Gray Iron	8.375 lbs.	1.809	15.150	1.912	16.013	1.693	15.654	2.323	19.455	2.131	17.847
Bar Steel	15.32 "	2.255	34.547	1.455	22.291	1.725	26.427	1.845	28.265	1.82	27.882
(.10+)											
Machines Bolts		Dis.	4.121	80-10-2	2.290	70-10-5-	3.263	65-10-5-	3.607	70-15-2	3.244
	12.960 List	60-10-10-2				2		2			
Rivets	.94 "	60-10-5-2	.315	75-10-2	.207	75-10-2	.207	60-5	.179	80-10-2	.166
Cotters	1.76 "	65-10	.238	85	.264	75	.440	90-10-5	.150	90-10-2	.155
Total Material	24.258 lbs.		54.371		41.065		46.191		51.856		49.294

Labor, Expense & Supplies 16.076

Wheels 1894-1904 1/4

Wheels	1894-5		1895-6		1896-7		1897-8		1898-9		1899-00	
Rims 2.	12.76	25.520	12.76	25.520	12.76	25.520	11.53	23.060	12.76	25.520	12.25	24.500
Spokes 12.	1.942	23.304	1.942	23.304	1.942	23.304	1.635	19.620	1.967	23.604	1.544	18.528
Gray Iron 14.125 lbs.	1.885	26.626	1.818	25.679	1.72	24.295	1.673	23.631	1.713	24.196	1.809	25.552
Bar Steel 20. " (.20+)	1.75	35.000	1.70	34.000	1.5	30.000	1.131	22.620	1.18	23.600	2.355	47.100
Primer .461 "	5.5	2.371	5.88	2.534	5.88	2.534	5.39	2.323	4.655	2.006	4.655	2.006
Canary Yellow .563 "	5.5	3.097	5.88	3.310	5.88	3.310	5.39	3.035	4.655	2.621	4.655	2.621
Varnish .014 Gals.	95.	1.330	90.	1.260	85.	1.190	85.5	1.197	70.5	.987	61.750	.865
Coil Springs 2.		.950		.950		.950		2 .950		.950		.950
Rivets .492 List	65-10-2	.152	65-10-7½-2	.140	75-2	.121	80-10-10½	.078	80-10-2	.087	60-10-5-2	.165
Total Material 54.250lbs.	2.181	118.350	2.150	116.697	2.050	111.224	1.729	96.514	1.909	103.571	2.254	122.287

(Continued from above)	1900-01		1901-02		1902-03		1903-04	
Rims 2.	13.	26.000	13.26	26.520	14.76	29.520	18.26	36.520
Spokes 12.	2.055	24.660	1.867	22.404	2.367	28.404	2.267	27.204
Gray Iron 14.125 lbs.	1.913	27.007	1.893	26.739	2.323	32.812	2.131	30.100
Bar Steel (20+)20. "	1.555	31.100	1.825	36.500	1.945	38.900	1.92	38.400
Primer .431 "	6.37	2.746	6.42	2.767	6.419	2.767	6.419	2.767
Canary Yellow .563 "	6.37	3.586	6.42	3.614	6.419	3.614	6.419	3.614
Varnish .014 gal.	61.750	.865	61.75	.865	76.	1.064	76.	1.064
Coil Springs 2.		.950		.950		.950		.950
Rivets .492 List	75-10-2	.108	75-10-2	.108	80-5	.095	80-10-2	.087
Total Material 54.250 lbs.	2.157	117.022	2.220	120.467	2.546	136.124	2.593	140.706

Labor, Expense & Supplies 1894-5 47.320

Shoe & Feed 1894-1904 1/5

Shoe & Feed		1894-5		1895-6		1896-7		1897-8		1898-9		1899-1900	
Mall. Iron	2.8 lbs.	2.94	8.232	3.035	8.498	2.619	7.333	2.327	6.516	2.695	7.546	3.25	9.100
Gray Iron	8.907 "	1.885	16.790	1.818	16.193	1.72	15.320	1.673	14.901	1.715	15.258	1.809	16.113
Bar Steel .10+	5.16 "	1.65	8.514	1.60	8.256	1.4	7.224	1.031	5.320	1.08	5.573	2.255	11.636
" .30+	.16 "	1.85	.296	1.80	.288	1.60	.256	1.231	.197	1.28	.205	2.455	.393
" .25+	1.52 "	1.8	2.736	1.75	2.660	1.55	2.356	1.181	1.795	1.23	1.870	2.405	3.656
Shoe Steel	3.406 "	2.134	7.269	2.376	8.072	2.328	7.929	2.145	7.306	1.921	6.543	3.775	12.858
Spring Steel	3.5 "	4.25	14.875	4.49	15.715	4.39	15.365	2.38	8.330	2.425	8.488	4.	14.000
Carriage Bolts	4.3 List	85-25-2	.474	70-10-5-5-2	1.027	65-10-10-2	1.195	80-5-2	.801	80-2½-2	.822	60-10-2	1.517
Machine Bolts	3.36 "	85-20-2	.395	75-7½-5-2	.723	70-2½-25-10-2	.650	80-10-2	.593	80-10-2	.593	60-10-10-2	1.067
Rivets O. H.	2.163 "	65-10-2	.668	65-10-7½-2	.618	75-2	.530	80-10-10-2	.343	80-10-2	.382	60-10-5-2	.725
Rivets F. H.	.091 net		.091		.091		.091		.091		.091		.091
Soft Steel	.218 lbs.		.894		.894		.894		.894		.894		.894
Wood Screws F.H.	.031 List	85-10-10	.004	87½-2½-10-5-2	.003	90-5-2½-2	.003	87-10-10-5-2	.003	87½-10-10-5-2½-2	.003	87½-10-5-2½-2	.003
Cotters	.018 "	80 Dis.	.004	80-10-2	.003	85-10-2	.002	80-5	.003	85-10	.002	85-10	.002
Spring	1.	.6	.600	.6	.600	.6	.600	.6	.600	.6	.600	.6	.600
Rubber Tubes	.25 lbs.	30.	7.500	30.	7.500	25.	6.250	24.5	6.125	26.81	6.703	29.70	7.425
Total Material	26.528 "	2.614	69.342	2.662	71.141	2.498	65.998	2.028	53.818	2.094	55.573	3.018	80.080

Labor, Expense & Supplies 26.694.

(Continued from above)		1900-01		1901-02		1902-03		1903-04	
Mall. Iron	2.8 lbs.	3.25	9.100	3.25	9.100	3.83	10.724	3.68	10.304
Gray Iron	8.907 "	1.912	17.030	1.893	16.861	2.323	20.691	2.131	18.981
Bar Steel .10+	5.16 "	1.455	7.508	1.725	8.901	1.845	9.520	1.82	9.391
" .30+	.16 "	1.655	.265	1.925	.308	2.045	.327	2.02	.323
" .25+	1.52 "	1.605	2.440	1.875	2.850	1.995	3.032	1.97	2.994
Shoe Steel	3.406 "	2.275	7.749	3.045	10.371	3.395	11.563	3.15	10.729
Spring Steel	3.5 "	4.35	15.225	3.25	11.375	3.818	12.663	3.	10.500
Carriage Bolts	4.3 List	75-10-5-2	1.081	90-2	.421	60-10-10-2	1.365	70-15-2	1.075
Machine Bolts	3.36 "	80-10-2	.593	70-10-5-2	.845	65-10-5-2-2	.985	70-15-2	.840
Rivets O. H.	2.163"	75-10-2	.477	75-10-2	.477	80-5	.411	80-10-2	.382
" F. H.	.091 Net		.091		.091		.091		.091
Soft Steel	.218 lbs.		.894		.894		.894		.894
Wood Screws F.H.	.031 List	80-10-5-2½-2½-7½-5	.004	90-10-5-2½-2	.002	90-10-10-5-2½-2	.002	87½-10-10-5-2½-2	.003
Cotters	.018 "	85	.003	75	.004	90-10-5	.002	90-10-2	.002
Spring	1.	.6	.600	.6	.600	.6	.600	.6	.600
Rubber Tubes	.25 lbs.	31.50	7.875	27.93	6.983	31.16	7.790	32.34	8.085
Total Material	26.528 lbs.	2.673	70.935	2.641	70.083	3.041	80.660	2.834	75.194

Surveyor 1894-1904 1/6

Surveyor			1894-5		1895-6		1896-7		1897-8		1898-9		1899-1900	
Gray Iron	2.625	lbs.	1.885	4.948	1.818	4.772	1.72	4.515	1.673	4.392	1.713	4.497	1.809	4.749
Soft Steel	.286	"		1.173		1.173		1.173		1.173		1.173		1.173
Springs	.031	"		1.240		1.240		1.240		1.240		1.240		1.240
Brass	.015	"		.300		.300		.300		.300		.300		.300
Carriage Bolt	1.000	List	85-25-2	.110	70-10-5-5-2	.239	65-10-10-2	.298	80-5-2	.186	80-2½-2	.191	80-10-2	.353
Rivets	.682	"	65-10-2	.211	65-10-7½-2	.195	75-2	.167	80-10-10-2	.108	80-10-2	.120	80-10-5-2	.229
Wood Screws R.H.	3.888	"	75-10-10	.787	82½-10-10-5 2	.513	85-2½-2	.557	85-10-5-2	.489	85-10-5-2½-2	.477	75-10-5-2½-2	.794
Total Material	3.066	List		8.769		8.432		8.230		7.886		7.998		8.838
Labor, Expense & Supplies				8.294										

Continued from above)			1900-01		1901-02		1902-03		1903-04	
Gray Iron	2.625	lbs.	1.912	5.019	1.893	4.969	2.323	6.098	2.131	5.594
Soft Steel	.286	"		1.173		1.173		1.173		1.173
Springs	.031	"		1.240		1.240		1.240		1.240
Brass	.015	"		.300		.300		.300		.300
Carriage Bolt	1.000	list	75-10-5-2	.209	90-2	.098	80-10-10-2	.318	70-15-2	.250
Rivets	.682	"	75-10-2	.150	75-10-2	.150	80-5	.130	80-10-2	.120
Wood Screws R.H.	3.888	"	80-10-5-2	.652	87½-6-2½- 16 2	.397	70	1.166	85-10-10-5-2½-2	.429
Total Material	3.066	List		8.743		8.327		10.425		9.106

Pressure Lever 1894-1904 1/7

Pressure Lever		1894-5		1895-6		1896-7		1897-8		1898-9		1899-1900	
Gray Iron	.188 lbs.	1.885	.354	1.818	.342	1.72	.223	1.673	.315	1.713	.322	1.809	.340
Mall. Iron	4.063 "	2.94	11.945	3.035	12.331	2.619	10.641	2.327	9.455	2.695	10.950	3.25	13.205
Bar Steel .15+	3.343 "	1.7	5.683	1.65	5.516	1.45	4.847	1.081	3.614	1.13	3.778	2.305	7.706
" " 1.25+	.213 "	2.8	.596	2.75	.586	2.55	.543	2.181	.465	2.23	.475	3.405	.725
Coil Spring	.016 "		.500		.500		.500		.500		.500		.500
Carriage Bolt	2.08 List	85-25-2	.229	70-10-5-5-2	.497	65-10-10-2	.578	80-5-2	.387	80-2½-2	.398	60-10-2	.734
Machine "	2.88 "	85-20-2	.339	75-7½-5-2	.620	70-2½-25-10 2	.557	80-10-2	.508	80-10-2	.508	60-10-10-2	.915
Tire "	.47 Net		.470		.470		.470		.470		.470		.470
Rivets	1.325 List	65-10-2	.409	65-10-7½-2	.378	75-2	.325	80-10-10-2	.210	80-10-2	.234	60-10-5-2	.444
Total Material	8.354 lbs.		20.525		21.240		18.684		15.924		17.635		25.039
Labor, Expense & Supplies			9.553										

(Continued from above)		1900-1901		1901-02		1902-03		1903-04	
Gray Iron	.188 lbs.	1.912	.360	1.893	.356	2.323	.437	2.131	.401
Mall. Iron	4.063 "	3.25	13.205	3.35	13.205	3.83	15.561	3.68	14.952
Bar Steel .15+	3.343 "	1.505	5.031	1.775	5.934	1.895	6.335	1.87	6.251
" 1.25+	.213 "	2.605	.555	2.875	.612	2.995	.638	2.97	6.33
Coil Spring	.016 "		.500		.500		.500		.500
Carriage Bolt	2.08 List	75-10-5-2	.436	90-2	.204	60-10-10-2	.660	70-15-2	.520
Machine "	2.88 "	80-10-2	.508	70-10-5-2	.724	65-10-5-2	.845	70-15-2	.720
Tire "	.47 Net		.470		.470		.470		.470
Rivets	1.325 List	75-10-2	.292	75-10-2	.292	60-5	.252	80-10-2	.234
Total Material	8.354 lbs.		21.357		22.297		25.698		24.681

Double Trees 1894-1904 1/8

Double Trees		1894-5		1895-6		1896-7		1897-8		1898-9		1899-00	
Oak	5.24 ft.	2.8	11.938	2.8	11.528	2.8	11.528	2.8	11.528	2.4	12.576	2.4	12.576
Primer	.156lbs.)	5.3	1.975	5.88	2.111	5.88	2.111	5.39	1.935	4.655	1.671	4.655	1.671*
Yellow	.203 ")												
Varnish	.005 gals.	95.	.475	90.	.450	85.	.425	85.5	.428	70.5	.353	61.75	.310
Mall. Iron	.875 lbs.	2.94	2.573	3.035	2.656	2.610	2.282	2.327	2.036	2.695	2.358	3.25	2.844
Bar Steel .25+	1.625 "	1.8	2.925	1.75	2.844	1.65	2.613	1.181	1.919	1.23	1.999	2.405	3.908
Pipe	.063 "		.375		.375		.375		.375		.375		.375
Rivets	7.954 list	65-10-2	2.499	85-10-7½-2	2.271	75-2	1.949	80-10	1.803	60-10-2	1.403	60-10-5-2	2.660
Washers	.016 lbs.		.152		.152		.152	10-2	.152		.152		.152
Total Material	12.125 "		22.458		22.387		21.351		19.036		20.687		24.502

Labor, Expense & Supplies 11.919

(Continued from above)		1900-01		1901-02		1902-03		1903-04	
Oak	5.24 ft.	2.8	14.672	2.2	11.528	2.5	13.100	2.8	14.672
Primer	.156 lbs.)	6.37	2.287	6.42	2.305	6.419	2.304	6.419	2.304
Yellow	.203 ")								
Varnish	.005 gals.	61.75	.310	61.75	3.10	76.	.380	76.	.380
Mall. Iron	.875 lbs.	3.25	2.844	3.25	2.844	3.83	3.351	3.68	3.220
Bar Steel .25+	1.625 "	1.605	2.608	1.875	3.047	1.995	3.242	1.97	3.201
Pipe	.063 "		.375		.375		.375		.375
Rivets	7.954 list	75-10-2	1.754	75-10-2	1.754	80-5	1.511	80-10-2	1.403
Washers	.016 lbs.		.152		.152		.152		.152
Total Material	12.126		25.002		22.315		24.415		25.707

Neck Yoke		1894-5		1895-6		1896-7		1897-8		1898-9		1899-00	
White Oak	2.08 feet	2.2	4.576	2.2	4.576	2.2	4.576	2.2	4.576	2.4	4.992	2.4	4.992
Yellow	.126 lbs.	5.5	.693	5.88	.741	5.88	.741	5.39	.679	4.655	.587	4.655	.587
Varnish	.005 gal.	95.	.475	90.	.450	85.	.425	85.5	.428	70.5	.353	61.75	.310
Bar Steel .25+	1.6 lbs.	1.8	2.880	1.75	2.800	1.55	2.480	1.161	1.890	1.23	1.968	2.405	3.848
" .20+	.77 "	1.75	1.348	1.7	1.309	1.5	1.155	1.131	.871	1.18	.909	2.355	1.813
" .45+	.052"	2.	.104	1.95	.101	1.75	.091	1.381	.072	1.43	.074	2.605	.135
Staples	.884 Net		.884		.884		.884		.884		.884		.884
Total Material	5.798 lbs.		10.960		10.861		10.352		9.400		9.767		12.569

Labor, Expense & Supplies 5.733

(Continued from above)		1900-01		1901-02		1902-03		1903-04	
White Oak	2.08 feet	2.8	5.824	2.2	4.576	2.5	5.200	2.8	5.824
Yellow	.126 lbs.	6.37	.803	6.42	.809	6.410	.809	6.419	.809
Varnish	.005 gal.	61.75	.310	61.75	.310	76.	.380	76.	.380
Bar Steel .25+	1.6 lbs.	1.605	2.568	1.875	3.000	1.895	3.192	1.97	3.152
" .20+	.77 "	1.555	1.197	1.825	1.405	1.945	1.498	1.92	1.478
" .45	.052 "	1.805	.094	2.075	.108	2.195	.114	2.17	.113
Staples	.884 Net		.884		.884		.884		.884
Total Material	5.798 lbs.		11.880		11.092		12.077		12.840

Fixture Box 1894-1895		
Crate Lumber	10. feet	12.000
Nails	.531 lbs.	1.290
Total Material	26 lbs.	

Labor, Expense & Supplies 21.000

1891-1892

Material			Grain Box		Frame		Long Pole		Wheel		Shoe & Feed		Pressure Lever	
Poplar Lumber		.02352	16.	.37,632										
Primer		.06895	1.04	.07171										
Red		.12805	.875	.11204										
Varnish		1.0925	.034	.03715	.012	.01311	.009	.00983	.014	.01530				
Transfers				.06875										
Gray Iron		.0197	32.875	.64764	36.375	.71659	1.5	.02955	14.125	.27826	8.907	.17547	.188	.00370
Bar Steel	+.10	.0167	4.600	.07515	1.813	.03028					5.16	.08617		
"	.35	.0192	.188	.03610										
"	.45	.0202	.031	.00063							1.52	.02706		
"	.25	.0182			.75	.01365								
"	.20	.0177			2.5	.04425			20.	.35400			.213	.00601
"	1.25	.0282			.2	.00564					.16	.00299		
"	.30	.0187											3.343	.05750
"	.15	.0172									.043	.00968	.0208	.00468
Carriage Bolts	75.10.		.0628	.01413	.63810	.14357					.00018	.00004		
Cotters	80.2.		.022	.00431	.08805	.01726					.00031	.00006		
Wood Screws F.H.	72½.2		.24063	.06485			.0472	.01172						
" R.H.	67½-2		.23328	.07430										
				.00379										
Nails					2.728	.07524								
Oak Lumber		.02758			.719	.04584	.563	.03589	.904	.06337				
Yellow		.06375			.125	.00495					2.8	.11088	4.063	.16089
Mall. Iron		.0396			54.438	.81842								
Axle Steel		.023765			5.667	.32020								
1¼ " Pipe		.056503				.00690								
Chain						.01565				.00950		.00600		.00500
Springs						.00359								.00470
Miscellaneous Bolts														
Rivets O.H.	60-10				.00344	.00124			.00492	.00177	.02163	.00779	.01325	.00477
Washers						.00730								
Forward			1.58667			2.28368		.08799		.72220		.42676		.24725

(Continued from above)			Double Trees		Neck Yokes		Fixture Box
Poplar Lumber		.02352					
Primer		.06895					
Red		.12805					
Varnish		1.0925	.005	.00546	.005	.00546	
Transfers							
Gray Iron		.0197					
Bar Steel	+.10	.0167					
"	.35	.0192					
"	.45	.0202			.052	.00105	
"	.25	.0182	1.625	.02958	1.6	.02912	
"	.20	.0177			.77	.01363	
"	1.25	.0282					
"	.30	.0187					
"	.15	.0172					
Carriage Bolts	75-10						
Cotters	80-2						
Wood Screws F.H.	72½-2						
" R. H.	67½-2						.01290
Nails							
Oak Lumber		.02758	5.24	.14452	2.08	.05737	
Yellow		.06375	.359	.02289	.126	.00803	
Mall. Iron		.0396	.875	.03465			
Axle Steel		.023765					
1¼" Pipe		.056563					
Chain							
Springs							
Miscellaneous Bolts							
Rivets O.H.	60-10		.07954	.02683			
Washers				.00152			
Foward				.26725		.11466	.01290

Material	Grain Box	Frame	Long Pole	Wheel	Shoe & Feed	Pressure Lever	Double Trees	Neck Yokes	Fixture Box
Forward	1.58687	2.28368	.08799	.72220	.42676	.24725	.26725	.11466	.01260
Pipe (small)							.00375		
Pine Lumber .02744			12. .32928						
Rims .13				2. .26000					
Spokes .018				12. .21600					
Shoe Steel .0289					3.406 .09843				
Spring " .0575					3.5 .20125				
Machine Bolts 80-12½					.0336 .00588	.0288 .00504			
Rivets F.H.					.00091				
Soft Steel					.00894				
Rubber Tubes .325					.25 .08125				
Staples								.00884	
Crate Lumber									.12000
	(.0208) 1.58687	(.01657) 2.26368	.41727	1.19820	.82342	.25229	.27100	.12350	.13290

11-6 Wood Frame Shoe Drills

Material		Grain Box		Frame		Long Pole		Wheel		Shoe and Feed		Pressure Lever		Double Trees
Poplar Lumber	2.35	16.	.37600											
Primer	5.15	1.04	.05356											
Red	14.65	.875	.12994											.005
Varnish	109.25	.034	.03715	.012	.01311	.009	.00963	.014	.01530					
Transfers			.06875											
Gray Iron	1.874	32.875	.61608	36.375	.68167	1.5	.02811	14.125	.26470	8.907	.16692	.168	.00352	
Bar Steel +.10	1.775	4.6	.07988	1.813	.03218					5.16	.09159			
" .35	2.025	.188	.00381											
" .45	2.125	.031	.00066											
" .25	1.925									1.52	.02926			1.625
" .20	1.875							20.	.37500					
" 1.25	2.925											.213	.00623	
" .30	1.975									.16	.00316			
" .15	1.825											3.343	.06101	
Carriage Bolts 75-10-5-2		.0628	.01316	.6381	.13367					.043	.00901	.0208	.00436	
Cotters 80		.022	.00440	.08805	.01761					.00018	.00004			
Wood Screws F.H. 70-10		.24063	.06497			.0472	.01274			.00031	.00008			
" R.H. 65-10		.23328	.07348											
Nails			.00379											5.24
Oak Lumber	2.758			15.32	.42253									.359
Yellow	6.376			.719	.04584	.563	.03569	.994	.06337					.875
Mall. Iron	3.528			.125	.00441					2.8	.09878	4.063	.14334	
Axle Steel	2.231			34.438	.76831									
1 ¼" Pipe	5.21			5.667	.29525									
Chain					.00940									
Springs					.01565				.00950		.00600		.00500	
Miscellaneous Bolts		.01621			.00359								.00470	
Rivets O. H. 60-10				.00344	.00124			.00492	.00177	.02163	.00779	.01325	.00477	.07954
Washers					.00730									
Pipe (Small)														
Pine Lumber	.0294					12.	.35280							
Rims	.1326							2.	.26520					
Spokes	.018							12.	.21600					
Shoe Steel	.0289									3.406	.09844			
Spring "	.05185									3.5	.18148			
Machine Bolts 80-12½-2										.0336	.00576	.0288	.00494	
Rivets F. H.											.00091			
Soft Steel											.00894			
Rubber Tubes	.325									.25	.08125			
Staples														
Crate Lumber														
Lag Screws					.04986									
		(.02021)	1.54184	(.01815)	2.50156		.43937		1.21084		.78941		.23787	

1893-1894 11-6 Wood Frame Shoe Drills=

Material			Grain Box (76.282#)		Frame (137.816#)		Long Pole		Wheel		Shoe & Feed		Pressure Lever		Double Trees		Neck Yokes		Fixture Box
Poplar Lumber		.0235	16	.37600															
Primer		.0515	1.04	.05356															
Red		.1485	.875	.12994															
Varnish		1.10	.034	.03740	.012	.01320	.009	.00990	.014	.01540					.005	.00550	.005	.00550	
Transfers				.06875															
Gray Iron		.01874	32.875	.61608	36.375	.68167	1.5	.02811	14.125	.26470	8.907	.16692	.188	.00352					
Bar Steel	+.10	.0160	4.5	.07200	1.813	.02901					5.16	.08256							
"	.35	.0195	.188	.00367													.052	.00107	
"	.45	.0205	.031	.00064													1.6	.02960	
"	.25	.0185									1.52	.02812			1.625	.03006	.77	.01386	
"	.20	.0180							20.	.36000									
"	1.25	.0275											.213	.00586					
"	.30	.0190									.16	.00304							
"	.15	.0175											3.343	.05850					
Carriage Bolts	80-5		.0628	.01193	.6381	.12124					.043	.08170	.0208	.00395					
Cotters	80		.022	.00440	.08805	.01761					.00018	.00004							
Wood Screws	70 (F.H.)		.24063	.07219			.0472	.01416			.00031	.00009							
" R.H.	65-10		.23328	.07348															.01290
Nails				.00379											5.24	.14452	2.08	.05737	
Oak Lumber		.02758			15.32	.42253									.359	.02289	.128	.00797	
Yellow		.06375			.719	.04584	.563	.03589	.994	.06337					.875	.03087			
Mall. Iron		.03528			.125	.00441					2.8	.09878	4.063	.14334					
Axle Steel		.02231			34.438	.76831													
1 ¼" Pipe		.0522			5.667	.29682													
Chain						.00940													
Springs						.01565				.00950		.00600		.00500					
Miscellaneous Bolts				.01621		.00359								.00470					
Rivets O. H.	60-10				.00344	.00124			.00492	.00177	.02163	.00779	.01325	.00477	.07954	.02863			
Washers						.00730										.00152			
Pipe (small)																.00375			
Pine Lumber		.0294					12.	.35280											
Rims		.16							2.	.32000									
Spokes		.018							12	.21600									
Shoe Steel		.0292								3.406		.09946							
Spring "		.05185								3.5		.18148							
Machine Bolts	65-10									.0336		.00454	.0288	.00389					
Rivets F.H.												.00091							
Soft Steel												.00894							
Rubber Tubes		.325								.25		.08125						.00884	
Staples																			.12000
Crate Lumber																			
Lag Screws						.04980													
			(.02019)	1.54004		2.48762		.44086		1.25074		.85162		.23353		.26774		.12421	.13290
						(.01805)													

Exhibit 2, pages 1 to 14. Proportionate cost of various sizes of shoe drills as follows:

Page 1, labor, expense and supplies, 1891 to 1894.

Page 2, Material 1891-2

Page 2 (a), Material 1892-3

Page 2 (b), Material 1893-4

Page 3, labor, expense and supplies, 1894 to 1899.

Page 4, material 1894-5

Page 5, material 1895-6

Page 6, material 1896-7

Page 7, material 1897-8

Page 8, material 1898-9.

Page 9, labor, expense and supplies, 1899 to 1904.

Page 10, material 1899-1900

Page 11, material, 1900-01.

Page 12, material, 1901-02

Page 13, material, 1902-03

Page 14, material, 1903-04.

In the foregoing pages, those for labor, expense and supplies, the adjusted totals were transferred to the pages for material and added thereto as indicated. In the first column to the left on each page are shown the names of the different parts and the price per pound or price each, as the case may be, same having been transferred from the sheets of Exhibit 1. The columns across the top of the page are headed with the various sizes of shoe drills manufactured in the different years, and under such headings are shown the weights and proportions obtained through use of Schedule "B"; also the results of calculations of said weights and proportions with aforesaid costs which were transferred from Exhibit 1.

At the bottom of each page is shown an adjusted total; those for labor being 193.381 per cent. and material 125.788 per cent.

2/:

Labor, Expense & Supplies 1891-1894.

1891-4 Wood Frame Shoe Drills

Labor, Expense & Supplies	11-6		13-6		15-5		17-6		20-3		22-6		26-5	
Grain Box .0101		.77078	80	.8080	79	.79790	109	1.10090	111	1.12110	123	1.24230	117	1.18170
Frame .00722		.99562	56	1.12632	174	1.25628	219	1.58118	215	1.55230	267	1.92774	269	1.94218
Long Pole .21394	1	.21394	1	.21394	2	.42788	2	.42788	2	.42788	2	.42788	2	.42788
Wheels .4732	2	.94640	2	.94640	2	.94640	2+1/11	1.03244	2+1/11	1.03244	2+4/11	1.29056	2+4/11	1.29056
Shoes & Feeds .26694	11	2.93634	13	3.47022	15	4.00410	17	4.53798	20	5.33880	22	5.87268	26	6.94044
Pressure Lever .09553	1	.09553	1	.09553	2	.19106	2	.19106	2	.19106	2	.19106	2	.19106
Double Trees .11919	1	.11919	1	.11919	2+1/26	.24755	2+1/26	.24755	3-2/39	.33923	3+2/39	.37591	3+2/39	.37591
Neck Yokes .05755	1	.05755	1	.05755	2-1/12	.10551	2-1/12	.10551	2-1/12	.10551	2+1/12	.12469	2+1/12	.12469
Fixture Box .21	1	.21000	1	.21000	1+2/25	.22680	1+7/25	.26880	1+7/25	.26880	1+9/25	.28560	1+9/25	.28560
Total		6.34535		7.04715		8.20548		9.49330		10.37712		11.73542		12.76002
193.361%		12.27070		13.62785		15.86397		18.35824		20.06736		22.69987		24.67546

1891-2 Wood Frame Shoe Drills

Material		11-6		13-6		15-5		17-6		20-5		22-6		26-5	
Grain Box	.0208		1.58687	80	1.6640	79	1.64320	109	2.26720	111	2.30880	123	2.55840	117	2.43360
Frame	.01657		2.28368	1.56	2.58492	174	2.88318	219	3.62883	215	3.56255	267	4.42419	269	4.45773
Long Pole	.41727	1	.41727	1	.41727	2	.83454	2	.83454	2	.83454	2	.83454	2	.83454
Wheels	1.1982	2	2.39640	2	2.39040	2	2.39640	2+1/11	2.61425	2+1/11	2.61425	2+4/11	3.26782	2+4/11	3.26782
Shoes & Feeds	.82342	11	9.05762	13	10.70446	15	13.35130	17	13.99814	20	16.46840	22	18.11524	26	21.40892
Pressure Lever	.25229	1	.25229	1	.25229	2	.50458	2	.50458	2	.50458	2	.50458	2	.50458
Double Trees	.271	1	.27100	1	.27100	2+1/26	.36285	2+1/26	.56285	3-2/39	.77131	3+2/39	.85469	3+2/39	.85469
Neck Yokes	.1235	1	.12350	1	.12350	2-1/12	.22641	2-1/12	.22641	2-1/12	.22641	2+1/12	.26759	2+1/12	.26759
Fixture Box	.1329	1	.13290	1	.13290	1+2/25	.14353	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total			16.52153		18.54674		21.5459		24.80691		27.46095		31.00779		34.20981
125.788%			20.78210		23.32957		27.10227		31.20412		34.54256		39.00408		43.03184
Labor, Expense & Supplies			12.27070		13.62785		15.86397		18.35824		20.06738		22.69987		24.67546
			33.05280		36.95742		42.96624		49.56236		54.60996		61.70395		67.70730

1892-3 Wood Frame Shoe Drills

Material		11-6		13-6		15-5		17-6		20-5		22-6		26-5	
Grain Box	.02021		1.54184	80	1.61680	79	1.59659	109	2.20289	111	2.24331	123	2.48583	117	2.36457
Frame	.01815		2.50156	156	2.83140	174	3.15810	219	3.97485	215	3.90225	267	4.84605	269	4.88235
Long Pole	.43937	1	.43937	1	.43937	2	.87874	2	.87874	2	.87874	2	.87874	2	.87874
Wheels	1.21084	2	2.42168	2	2.42168	2	2.42168	2+1/11	2.64183	2+1/11	2.64183	2+4/11	3.30228	2+4/11	3.30228
Shoes and Feeds	.78941	11	8.68351	13	10.26233	15	11.84115	17	13.41997	20	15.78820	22	17.36702	26	20.52466
Pressure Lever	.23787	1	.23787	1	.23787	2	.47574	2	.47574	2	.47574	2	.47574	2	.47574
Double Trees	.28892	1	.28892	1	.28892	2+1/26	.55853	2+1/26	.55853	3-2/39	.76538	3+2/39	.84814	3+2/39	.84814
Neck Yokes	.12599	1	.12599	1	.12599	2-1/12	.23098	2-1/12	.23098	2-1/12	.23098	2+1/12	.27298	2+1/12	.27298
Fixture Box	.13290	1	.13290	1	.13290	1+2/25	.14353	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total			16.35364		18.33726		21.30504		24.55364		27.09654		30.65752		33.73020
125.788%			20.57092		23.06607		26.79918		30.88553		34.08419		38.56348		42.42654
Labor, Expense and Supplies			12.27070		13.62785		15.86397		18.35824		20.06738		22.69987		24.67546
			32.84162		36.69392		42.66315		49.24377		54.15157		61.26335		67.10400

1893-1894 Wood Frame Shoe Drills.

Material		11-6		13-6		15-5		17-6		20-5		22-6		26-5	
Grain Box	.02019		1.54604	80	1.61520	79	1.59501	109	2.20071	111	2.24109	123	2.48337	117	2.36223
Frame	.01805		2.48762	156	2.81580	174	3.14070	219	3.95295	215	3.88075	267	4.81935	269	4.85545
Long Pole	.44086	1	.44086	1	.44086	2	.88172	2	.88172	2	.88172	2	.88172	2	.88172
Wheels	1.25074	2	2.50148	2	2.50148	2	2.50148	2+1/11	2.72889	2+1/11	2.72889	2+4/11	3.41112	2+4/11	3.41112
Shoes & Feeds	.85162	11	9.36782	13	11.07106	15	12.77430	17	14.47754	20	17.03240	22	18.73564	26	22.14212
Pressure Lever	.23353	1	.23353	1	.23353	2	.46706	2	.46706	2	.46706	2	.46706	2	.46706
Double Trees	.26774	1	.26774	1	.26774	2+1/26	.55607	2+1/26	.55607	3-2/39	.76203	3+2/39	.84441	3+2/39	.84441
Neck Yokes	.12421	1	.12421	1	.12421	2-1/12	.22772	2-1/12	.22772	2-1/12	.22772	2+1/12	.26912	2+1/12	.26912
Fixture Box	.3290	1	.13290	1	.13290	1+2/25	.14353	1+7/25	.17011	1+7/25	.7011	1+9/25	.18074	1+9/25	.18074
			17.09620		19.20278		22.28759		25.66277		28.39177		32.09253		35.41397
125.788%			21.50496		24.15479		28.03511		32.28068		35.71344		40.36855		44.54652
Labor, Expense & Supplies			12.27070		13.62785		15.86397		18.35824		20.06738		22.69987		24.67546
			33.77566		37.78264		43.89908		50.63892		55.78082		63.06842		69.22198

1894-99 Wood Frame Shoe Drills — Labor, Expense & Supplies 2/3

Labor, Expense & Supplies		11-6		13-5		13-6		15-5		15-6		17-6		20-5		22-6		26-5	
Grain Box	.0101		.77078	72	.72720	80	.80800	79	.79790	86	.86860	109	1.10090	111	1.12110	123	1.24230	117	1.18170
Frame	.00722		.99562	145	1.04690	156	1.12632	174	1.25628	190	1.37180	219	1.58118	215	1.55230	267	1.92774	269	1.94218
Long Pole	.21394	1	.21394	1	.21394	1	.21394	2	.42788	2	.42788	2	.42788	2	.42788	2	.42788	2	.42788
Wheels	.4732	2	.94640	2	.94640	2	.94640	2	.94640	2	.94640	2+1/11	1.03244	2+1/11	1.03244	2+4/11	1.29056	2+4/11	1.29056
Shoes & Feeds	.26694	11	2.93634	13	3.47022	13	3.47022	15	4.00410	15	4.00410	17	4.53798	20	5.33880	22	5.87268	26	6.94044
Surveyor	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294
Pressure Lever	.09553	1	.09553	1	.09553	1	.09553	2	.19106	2	.19106	2	.19106	2	.19106	2	.19106	2	.19106
Double Trees	.11919	1	.11919	1	.11919	1	.11919	2+1/26	.24755	2+1/26	.24755	2+1/26	.24755	3-2/39	.33923	3+2/39	.37591	3+2/39	.37591
Neck Yokes	.05755	1	.05755	1	.05755	1	.05755	2-1/12	.10551	2-1/12	.10551	2-1/12	.10551	2-1/12	.10551	2+1/12	.12469	2+1/12	.12469
Fixture Box	.21	1	.21000	1	.21000	1	.21000	1+2/25	.22680	1+2/25	.22680	1+7/25	.26880	1+7/25	.26880	1+9/25	.28560	1+9/25	.28560
Total			6.42829		6.96987		7.13009		8.28642		8.47264		9.57624		10.46006		11.82136		12.84296
193.381%			12.43109		13.47840		13.78824		16.02436		16.38448		18.51863		20.22777		22.86026		24.83584

1894-5 Wood Frame Shoe Drills — Material 1894-5 2/4

Material		11-6		13-6		15-5		17-6		20-5		22-6		26-5	
Grain Box	.01863		1.42015	80	1.48960	79	1.47098	109	2.02958	111	2.06682	123	2.29026	117	2.17854
Frame	.01461		2.01356	150	2.27916	174	2.54214	219	3.19959	215	3.14115	267	3.90087	269	3.93009
Long Pole	.42633	1	.42633	1	.42633	2	.85266	2	.85266	2	.85266	2	.85266	2	.85266
Wheels	1.1835	2	2.36700	2	2.36700	2	2.36700	2+1/11	2.58218	2+1/11	2.58218	2+4/11	3.22772	2+4/11	3.22772
Shoes & Feeds	.69342	11	7.62762	13	9.01446	15	10.40130	17	11.78814	20	13.86840	22	15.25524	26	18.02892
Surveyor	.08769	1	.08769	1	.08769	1	.08769	1	.08769	1	.08769	1	.08769	1	.08769
Pressure Lever	.20525	1	.20525	1	.20525	2	.41050	2	.41050	2	.41050	2	.41050	2	.41050
Double Trees	.22458	1	.22458	1	.22458	2+1/26	.46644	2+1/26	.46644	3-2/39	.63919	3+2/39	.70839	3+2/39	.70839
Neck Yokes	.10960	1	.10960	1	.10960	2-1/12	.21920	2-1/12	.21920	2-1/12	.21920	2+1/12	.23747	2+1/12	.23747
Fixture Box	.13290	1	.13290	1	.13290	1+2/25	.14353	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total			14.61468		16.33657		18.96144		21.80609		24.03790		27.15154		29.84272
125.789%			18.38352		20.54944		23.85122		27.42944		30.23679		34.15338		37.53856
Labor, Expense & Supplies			12.43109		13.78824		16.02436		18.51863		20.22777		22.86026		24.83584
			30.81461		34.33768		39.87558		45.94807		50.46456		57.01364		62.37440

1895-1896 Wood Frame Shoe Drills

Material 1895-6 2/5

Material		11-6		13-5		13-6		15-5		15-6		17-6		20-6		22-6		26-5	
Grain Box	.01766		1.34665	72	1.27152	80	1.41280	79	1.39514	86	1.51876	109	1.92494	111	1.96026	123	2.17218	117	2.06622
Frame	.01539		2.13034	145	2.23155	156	2.40084	174	2.67786	190	2.92410	219	3.37041	215	3.30885	267	4.10913	269	4.13991
Long Pole	.42609	1	.42609	1	.42609	1	.42609	2	.85218	2	.85218	.2	.85218	2	.85218	2	.85218	2	.85218
Wheels	1.10697	2	2.33394	2	2.33394	2	2.33394	2	2.33394	2	2.33394	2+1/11	2.54612	2+1/11	2.54612	2+4/11	3.18265	2+4/11	3.18265
Shoes & Feeds	.71141	11	7.82551	13	9.24833	13	9.24833	15	10.67115	15	10.67115	17	12.09397	20	14.22820	22	15.65102	26	18.49666
Surveyor	.08432	1	.08432	1	.08432	1	.08432	1	.08432	1	.08432	1	.08432	1	.08432	1	.08432	1	.08432
Pressure Lever	.2124	1	.21240	1	.21240	1	.21240	2	.42480	2	.42480	2	.42480	2	.42480	2	.42480	2	.42480
Double Trees	.22387	1	.22387	1	.22387	1	.22387	2+1/26	.46496	2+1/26	.46496	2+1/26	.46496	3-2/39	.63717	3+2/39	.70605	3+2/39	.70605
Neck Yokes	.10861	1	.10861	1	.10861	1	.10861	2-1/12	.11912	2-1/12	.11912	2-1/12	.11912	2-1/12	.11912	2+1/12	.23532	2+1/12	.23532
Fixture Box	.13290	1	.3290	1	.13290	1	.13290	1+2/25	.14353	1+2/25	.14353	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total			14.81483		16.27353		16.58410		19.24700		19.61666		22.13093		24.41113		27.59839		30.36865
125.788%			18.63328		20.47015		20.86081		24.21042		24.67566		27.83805		30.70627		34.71546		38.20037
Labor, Expense & Supplies			12.43109		13.47840		13.78824		16.02433		16.36448		18.81063		20.22777		22.86026		24.83584
			31.06637		33.94855		34.64905		40.23478		1.06014		46.65668		50.93404		57.57572		63.03621

1896-7 Wood Frame Shoe Drills

Material 1896-7 2/6

Material	11-6		13-5		13-6		15-5		15-6		17-6		20-5		22-6		26-5	
Grain Box .01708		1.30298	72	1.22976	80	1.36640	79	1.34932	86	1.46888	109	1.86172	111	1.89588	123	2.10084	117	1.99836
Frame .01499		2.06523	145	2.17355	156	2.33844	174	2.60826	190	2.84810	219	3.28281	215	3.22285	267	4.00233	269	4.03231
Long Pole .40011	1	.40011	1	.40011	1	.40011	2	.80022	2	.80022	2	.80022	2	.80022	2	.80022	2	.80022
Wheels 1.11224	2	2.22448	2	2.22448	2	2.22448	2	2.22448	2	2.22448	2+1/11	2.42671	2+1/11	2.42671	2+4/11	3.03338	2+4/11	3.03338
Shoes & Feeds .65998	11	7.25978	13	8.57974	13	8.57974	15	9.89970	15	9.89970	17	11.21966	20	13.19960	22	14.51956	26	17.15948
Surveyor .08230	1	.08230	1	.08230	1	.08230	1	.08230	1	.08230	1	.08230	1	.08230	1	.08230	1	.08230
Pressure Lever .13684	1	.18684	1	.18684	1	.18864	2	.37368	2	.37368	2	.37368	2	.37368	2	.37368	2	.37368
Double Trees.21351	1	.21351	1	.21351	1	.21351	2+1/26	.44342	2+1/26	.44342	2+1/26	.44342	3-2/39	.60709	3+2/39	.67337	3+2/39	.67337
Neck Yokes .10352	1	.10352	1	.10352	1	.10352	2-1/12	.18979	2-1/12	.18979	2-1/12	.18979	2-1/12	.18979	2+1/12	.22429	2+1/12	.22429
Fixture Box.13290	1	.13290	1	.13290	1	.13290	1+2/25	.14333	1+2/25	.14363	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total		13.97165		15.32671		15.62824		18.11470		19.47410		20.86042		22.96883		25.66071		28.55813
125.788%		17.57466		19.27916		19.65645		22.78612		23.23820		26.22733		28.89203		32.69320		35.92270
Labor, Expense & Supplies		12.43109		13.47840		13.78824		16.02436		16.38448		18.51863		20.22777		22.86026		24.83584
		30.00575		32.75756		33.44669		38.81048		39.62268		44.74596		49.11980		55.55346		60.75854

1897-1898 Wood Frame Shoe Drills

Material 1897-8 2/7

Material		11-6		13-5		13-6		15-5		15-6		17-6		20-5		22-6		26-5	
Grain Box	.01591		1.21371	72	1.14552	80	1.27280	79	1.25689	86	1.36826	109	1.73419	111	1.76601	123	1.95693	117	1.86147
Frame	.01406		1.93731	145	2.03870	156	2.19336	174	2.44644	190	2.67140	219	3.07914	215	3.02290	267	3.75402	269	3.78214
Long Pole	.39705	1	.39705	1	.39705	1	.39705	2	.79410	2	.79410	2	.79410	2	.79410	2	.79410	2	.79410
Wheels	.96514	2	1.93028	2	1.93028	2	1.93028	2	1.93028	2	1.93028	2+1/11	2.10576	2+1/11	2.10576	2+4/11	2.63220	2+4/11	2.63220
Shoes & Feeds	.53818	11	5.91998	13	6.99634	13	6.99634	15	8.07270	15	8.07270	17	9.14906	20	10.76360	22	11.83996	26	13.99268
Surveyor	.07888	1	.07888	1	.07888	1	.07888	1	.07888	1	.07888	1	.07888	1	.07888	1	.07888	1	.07888
Pressure Lever	.15924	1	.15924	1	.15924	1	.15924	2	.31848	2	.31848	2	.31848	2	.31848	2	.31848	2	.31848
Double Trees	.19636	1	.19636	1	.19636	1	.19636	2+1/26	.40782	2+1/26	.40782	2+1/26	.40782	3-2/39	.55887	3+2/39	.61929	3+2/39	.61929
Neck Yokes	.094	1	.09400	1	.09400	1	.09400	2-1/12	.17233	2-1/12	.17233	2-1/12	.17233	2-1/12	.17233	2+1/12	.20367	2+1/12	.20367
Fixture Box	.1329	1	.13290	1	.13290	1	.13290	1+2/25	.14353	1+2/25	.14353	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total			12.05971		13.16927		13.43121		15.62145		15.96978		18.00987		19.75104		22.37827		24.46365
125.788%			15.16967		16.56536		16.92001		19.64991		20.07297		22.65426		24.84444		28.14918		30.77234
Labor, Expense & Supplies			12.43109		13.47840		13.78824		16.02436		16.38448		18.51863		20.22777		22.86026		24.83584
			27.60076		30.04376		30.70825		35.67427		36.45745		41.11789		45.07221		51.00944		55.60818

1898-9 Wood Frame Shoe Drills

Material 1898-9 2/8

Material	11-6		13-5		13-6		15-5		15-6.		17-6		20-5		22-6		26-5	
Grain Box .01581		1.20601	72	1.13632	80	1.26480	79	1.24899	86	1.35966	109	1.72329	111	1.75491	123	1.94463	117	1.84977
Frame .01427		1.96666	145	2.06915	156	2.22612	174	2.48298	190	2.71130	219	3.12513	215	3.06805	267	3.81009	269	3.83863
Long Pole .38012	1	.38012	1	.38012	1	.38012	2	.76024	2	.76024	2	.76024	2	.76024	2	.76024	2	.76024
Wheels 1.03571	2	2.07142	2	2.07142	2	2.207142	2	2.207142	2	2.207142	2+1/11	2.25973	2+1/11	2.25973	2+4/11	2.82466	2	2.82466
Shoes & Feeds .55573	11	6.11303	13	7.22449	13	7.22449	15	8.33595	15	8.33595	17	9.44741	20	11.11460	22	12.22606	26	14.44890
Surveyor .07998	1	.07998	1	.07998	1	.07998	1	.07998	1	.07998	1	.07998	1	.07998	1	.07998	1	.07998
Pressure Lever .17635	1	.17635	1	.17635	1	.17635	2	.35270	2	.35270	2	.35270	2	.35270	2	.35270	2	.35270
Double Trees .20887	1	.20887	1	.20887	1	.20887	2+1/26	.43381	2+1/26	.43381	2+1/26	.43381	3-2/39	.59447	3+2/39	.65875	3+2/39	.65875
Neck Yokes .09767	1	.09767	1	.09767	1	.09767	2-1/12	.17906	2-1/12	.17906	2-1/12	.17906	2-1/12	.17906	2+1/12	.21162	2+1/12	.21162
Fixture Box.13290	1	.13290	1	.13290	1	.13290	1+2/25	.14353	1+2/25	.14353	1+7/25	.17011	1+7/25	.17011	1+9/25	.18074	1+9/25	.18074
Total		12.43303		13.57927		13.86272		16.08866		16.42765		18.53146		20.33385		23.04947		25.20607
125.788%		15.63926		17.08109		17.43764		20.23760		20.66401		23.31035		25.57754		28.99347		31.70621
Labor, Expense & Supplies		12.43109		13.47840		13.78624		16.02436		16.38448		18.51863		20.22777		22.86026		24.63584
		28.07035		30.55949		31.22388		36.26196		37.04849		41.82898		45.80531		51.85373		56.54205

1899-1904 Steel Frame Shoe Drills.

Labor, Expense & Supplies 2/9
1899-1904

Labor, Expense & Supplies		8-8		10-7		12-6		13-5		13-6		14-6		15-5		16-6	
Grain Box	.01046	68	.71128		.77802		.77802	76	.79496	76	.79496	83	.86818	89	.93094	103	1.07738
Frame	.0078		1.20547		1.20547		1.20547	165	1.28700	165	1.28700	180	1.40400	184	1.43520	208	1.62240
Long Pole	.21394	1	.21394	1	.21394	1	.21394	1	.21394	1	.21394	2	.42788	2	.42788	2	.42788
Short "	.16076											1	.16076	1	.16076	1	.16076
Wheels	.4732	2	.94640	2	.94640	2	.94640	2	.94640	2	.94640	2	.94640	2	.94640	2+1/11	1.03244
Shoes & Feeds	.26694	8	2.13552	10	2.66940	12	3.20328	13	3.47022	13	3.47022	14	3.73716	15	4.00410	16	4.27104
Surveyor	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294
Pressure Lever	.09553	1	.09553	1	.09553	1	.09553	1	.09553	1	.09553	2	.19106	2	.19106	2	.19106
Double Trees	.11919	1	.11919	1	.11919	1	.11919	1	.11919	1	.11919	2+1/26	.24755	2+1/26	.24755	2+1/26	.24755
Neck Yokes	.05775	1	.05775	1	.05775	1	.05775	1	.05775	1	.05775	2-1/12	.10551	2-1/12	.10551	2-1/12	.10551
Fixture Box	.21	1	.21000	1	.21000	1	.21000	1	.21000	1	.21000	1+1/25	.22680	1+1/25	.22680	1+7/25	.26880
Total			5.77802		6.37864		6.91252		7.27793		7.27793		8.39824		8.75914		9.48776
193.361%			11.17359		12.33508		13.36750		14.07413		14.07413		16.24060		16.93851		18.34753

(Continued from above)		18-6		20-5		20-6		22-6		26-5	
Grain Box	.01046	112	1.17152	110	1.15060	120	1.25520	131	1.37026	130	1.35980
Frame	.0078	224	1.74720	220	1.71600	232	1.80960	249	1.94220	249	1.94220
Long Pole	.21394	2	.42788	2.	.42788	2	.42788	2	.42788	2	.42788
Short "	.16076	1	.16076	1	.16076	1	.16076	1	.16076	1	.16076
Wheels	.4732	2+1/11	1.03244	2+1/11	1.03244	2+4/11	1.29056	2+4/11	1.29056	2+4/11	1.29056
Shoes & Feeds	.26694	18	4.80492	20	5.33880	20	5.33880	22	5.87268	26	6.94044
Surveyor	.08294	1	.08294	1	.08294	1	.08294	1	.08294	1	.08294
Pressure Lever	.09553	2	.19106	2	.19106	2	.19106	2	.19106	2	.19106
Double Trees	.11919	2+1/26	.24755	3-2/39	.33923	3-2/39	.33923	3+2/39	.37591	3+2/39	.37591
Neck Yokes	.05775	2-1/12	.10551	2+1/12	.12469	2+1/12	.12469	2+1/12	.12469	2+1/12	.12469
Fixture Box	.21	1+7/25	.26880	1+7/25	.26880	1+7/25	.26880	1+8/25	.28560	1+8/25	.28560
Total			10.24058		10.83320		11.28952		12.12454		13.18184
193.361%			19.80334		20.94935		21.83179		23.44656		25.49117

Material	8-8		10-7		12-6		13-5		13-6		14-6		15-5		16-6	
Grain Box .02031	68	1.38108		1.51100		1.51100	76	1.54356	76	1.54356	83	1.68573	89	1.80759	103	2.09193
Frame .02298		3.54947		3.54947		3.54947	165	3.79170	165	3.79170	180	4.13640	184	4.22832	208	4.77984
Long Pole .38545	1	.38545	1	.38545	1	.38545	1	.38545	1	.38545	2	.77090	2	.77090	2	.77090
Short " .54371											1	.54371	1	.54371	1	.54371
Wheels 1.22287	2	2.44574	2	2.44574	2	2.44574	2	2.44574	2	2.44574	2	2.44574	2	2.44574	2+1/11	2.66808
Shoes & Feeds .8008	8	6.40640	10	8.00800	12	9.60960	13	10.41040	13	10.41040	14	11.21120	15	12.01200	16	12.81280
Surveyor .08838	1	.08838	1	.08838	1	.08838	1	.08838	1	.08838	1	.08838	1	.08838	1	.08838
Pressure Lever .25039	1	.25039	1	.25039	1	.25039	1	.25039	1	.25039	2	.50078	2	.50078	2	.50078
Double Trees .24502	1	.24502	1	.24502	1	.24502	1	.24502	1	.24502	2+1/26	.50889	2+1/26	.50889	2+1/26	.50889
Neck Yokes .12569	1	.12569	1	.12569	1	.12569	1	.12569	1	.12569	2-1/12	.23043	2-1/12	.23043	2-1/12	.23043
Fixture Box .13290	1	.13290	1	.13290	1	.13290	1	.13290	1	.13290	1+1/25	.13822	1+1/25	.13822	1+7/25	.17014
Total		15.01052		16.74204		18.34364		19.41923		19.41923		22.26038		23.37496		25.16588
125.768%		18.88143		21.05948		23.07410		24.42706		24.42706		28.00089		29.27711		31.65566
Labor, Expense & Supplies		11.17359		12.33508		13.36750		14.07413		14.07413		16.24060		16.93851		18.34753
		30.05502		33.39456		36.44160		38.50119		38.50119		44.24149		46.21562		50.00319

(Continued from above)

Material	16-6		20-5		20-6		22-6		26-5	
Grain Box .02031	112	2.27472	110	2.23410	120	2.43720	131	2.66061	130	2.64030
Frame .02298	224	5.14752	220	5.05560	232	5.33136	249	5.72202	249	5.72202
Long Pole .38545	2	.77090	2	.77090	2	.77090	2	.77090	2	.77090
Short " .54371	1	.54371	1	.54371	1	.54371	1	.54371	1	.54371
Wheels 1.22287	2+1/11	2.66808	2+1/11	2.66808	2+4/11	3.33510	2+4/11	3.33510	2+4/11	3.33510
Shoes & Feeds .8008	18	14.41440	20	16.01600	20	16.01600	22	17.61760	26	20.82080
Surveyor .08838	1	.08838	1	.08838	1	.08838	1	.08838	1	.08838
Pressure Lever .25039	2	.50078	2	.50078	2	.50078	2	.50078	2	.50078
Double Trees .24502	2+1/26	.50889	3-2/39	.69736	3-2/39	.69736	3+2/39	.77276	3+2/39	.77276
Neck Yokes .12569	2-1/12	.23043	2+1/12	.27233	2+1/12	.27233	2+1/12	.27233	2+1/12	.27233
Fixture Box .13290	1+7/25	.17014	1+7/25	.17014	1+7/25	.17014	1+9/25	.18078	1+9/25	.18078
Total		27.31795		29.01736		30.16326		32.46497		35.64786
125.788%		34.36270		36.50038		37.94176		40.83704		44.84073
Labor, Expense & Supplies		19.80334		20.94935		21.83179		23.44656		25.49117
		54.16604		57.44973		59.77345		64.28360		70.33190

1900-01 Steel Frame Shoe Drills

Material 1900-01 2/11

Material		8/8		10/7		12/6		13/5		13/6		14/6		15/5		16/6	
Grain Box	.02014	68	1.36952		1.49802		1.49802	76	1.53064	76	1.53064	83	1.67162	89	1.79246	103	2.07442
Frame	.01717		2.65252		2.65252		2.65252	165	2.83305	165	2.83305	180	3.09060	184	3.15928	208	3.57136
Long Pole	.39437	1	.39437	1	.39437	1	.39437	1	.39437	1	.39437	2	.78874	2	.78874	2	.78874
Short "	.41065											1	.41065	1	.41065	1	.41065
Wheels	1.17022	2	2.34044	2	2.34044	2	2.34044	2	2.34044	2	2.34044	2	2.34044	2	2.34044	2+1/11	2.55321
Shoes & Feeds	.70935	8	5.67480	10	7.09350	12	9.51220	13	9.22155	13	9.22155	14	9.93090	15	10.64025	16	11.34960
Surveyor	.08743	1	.08743	1	.08743	1	.08743	1	.08743	1	.08743	1	.08743	1	.08743	1	.08743
Pressure Lever	.21357	1	.21357	1	.21357	1	.21357	1	.21357	1	.21357	2	.42714	2	.42714	2	.42714
Double Trees	.25002	1	.25002	1	.25002	1	.25002	1	.25002	1	.25002	2+1/26	.51927	2+1/26	.51927	2+1/26	.51927
Neck Yokes	.11680	1	.11680	1	.11680	1	.11680	1	.11680	1	.11680	2-1/12	.21413	2-1/12	.21413	2-1/12	.21413
Fixture Box	.13290	1	.13290	1	.13290	1	.13290	1	.13290	1	.13290	1+1/25	.13822	1+1/25	.13822	1+7/25	.17014
Total			13.23237		14.77957		16.19827		17.12077		17.12077		19.61954		20.51801		22.16609
125.789%			16.64473		18.59093		20.37548		21.53588		21.53588		24.67852		25.80920		27.88228
Labor, Expense & Supplies			11.17359		12.33308		13.36750		14.07413		14.07413		16.24060		16.93851		18.34753
			27.81832		30.92601		33.74298		35.61001		35.61001		40.91913		42.74771		46.29981

Continued from above)

		18/6		20/5		20/6		22/6		25/5	
Grain Box	.02014	112	2.25568	110	2.21540	120	2.41680	131	2.63834	130	2.61820
Frame	.01717	224	3.84608	220	3.77740	232	3.98344	249	4.27533	249	4.27533
Long Pole	.39437	2	.78874	2	.78874	2	.78874	2	.78874	2	.78874
Short "	.41065	1	.41065	1	.41065	1	.41065	1	.41065	1	.41065
Wheels	1.17022	2+1/11	2.55321	2+1/11	2.55321	2+4/11	3.19152	2+4/11	3.19152	2+4/11	3.19152
Shoes & Feeds	.70935	18	12.76830	20	14.18700	2o	14.18700	22	15.60570	26	18.44310
Surveyor	.08743	1	.08743	1	.08743	1	.08743	1	.08743	1	.08743
Pressure Lever	.21357	2	.42714	2	.42714	2	.42714	2	.42714	2	.42714
Double Trees	.25002	2+1/26	.51927	3-2/39	.71160	3-2/39	.71160	3+2/39	.78852	3+2/39	.78852
Fixture Box	.13290	1+7/25	.17014	1+7/25	.17014	1+7/25	.17014	1+9/25	.16078	1+9/25	.16078
Neck Yokes	.11680	2-1/12	.21413	2+1/12	.25307	2+1/12	.25307	2+1/12	.25307	2+1/12	.25307
Total			24.04077		25.58178		26.02753		28.64722		31.46448
125.789%			30.24040		32.17681		33.49424		36.03477		39.57854
Labor, Expense & Supplies			19.80334		20.94935		21.83179		23.44656		25.49117
			50.04374		53.12816		55.32603		59.48133		65.06971

1901-02 Steel Frame Shoe Drills

Material 1901-02 2/12

Material		8-8		10-7		12-6		13-5		13-6		14-6		15-5		16-6	
Grain Box	.02011	68	1.36748		1.49596		1.49596	76	1.52836	76	1.52836	83	1.66913	89	1.78979	103	2.07133
Frame	.01983		3.06263		3.06263		3.06263	165	3.27195	165	3.27195	180	3.56940	184	3.64872	208	4.12464
Long Pole	.39148	1	.39148	1	.39148	1	.39148	1	.39148	1	.39148	2	.78296	2	.78296	2	.78296
Short "	.46191											1	.46191	1	.46191	1	.46191
Wheels	1.20467	2	2.40934	2	2.40934	2	2.40934	2	2.40934	2	2.40934	2	2.40934	2	2.40934	2+1/11	2.62837
Shoes & Feeds	.70063	8	5.60664	10	7.00630	12	8.40996	13	9.11079	13	9.11079	14	9.81162	15	10.51255	16	11.21338
Surveyor	.08327	1	.08327	1	.08327	1	.08327	1	.08327	1	.08327	1	.08327	1	.08327	1	.08327
Pressure Lever	.22297	1	.22297	1	.22297	1	.22297	2	.22297	1	.22297	2	.44594	2	.44594	2	.44594
Double Trees	.22315	1	.22315	1	.22315	1	.22315	1	.22315	1	.22315	2+1/26	.46347	2+1/26	.46347	2+1/26	.46347
Neck Yokes	.11092	1	.11092	1	.11092	1	.11092	1	.11092	1	.11092	2-1/12	.20335	2-1/12	.20335	2-1/12	.20335
Fixture Box	.1329	1	.13290	1	.13290	1	.13290	1	.13290	1	.13290	1+1/25	.13822	1+1/25	.13822	1+7/25	.17014
Total			13.01078		15.14092		16.54258		17.48513		17.48513		20.03861		20.93952		22.64876
125.788%			17.12073		19.04546		20.80858		21.99420		21.99420		25.20617		26.33040		28.48942
Labor, Expense & Supplies			11.17359		12.33508		13.36750		14.07413		14.07413		16.24060		16.93651		18.34753
			28.29432		31.38054		34.17608		36.06833		36.06833		41.44677		43.27791		46.83695

(Continued from above)

Material		18-6		20-5		20-6		22-6		26-5	
Grain Box	.02011	112	2.25232	110	2.21210	120	2.41320	131	2.63441	130	2.61430
Frame	.01983	224	4.44192	220	4.36260	232	4.60056	249	4.93767	249	4.93767
Long Pole	.39148	2	.78296	2	.78296	2	.78296	2	.78296	2	.78296
Short "	.46191	1	.46191	1	.46191	1	.46191	1	.46191	1	.46191
Wheels	1.20467	2+1/11	2.62837	2+1/11	2.62837	2+4/11	3.28546	2+4/11	3.28546	2+4/11	3.28546
Shoes & Feeds	.70063	18	12.61304	20	14.01660	20	14.01660	22	15.41826	26	18.22158
Surveyor	.08327	1	.08327	1	.08327	1	.08327	1	.08327	1	.08327
Pressure Lever	.22297	2	.44594	2	.44594	2	.44594	2	.44594	2	.44594
Double Trees	.22315	2+1/26	.46347	3-2/39	.63512	3-2/39	.63512	3+2/39	.70378	3+2/39	.70378
Neck Yokes	.11092	2-1/12	.20335	2+1/12	.24033	2+1/12	.24033	2+1/12	.24033	2+1/12	.24033
Fixture Box	.1329	1+7/25	.17014	1+7/25	.17014	1+7/25	.17014	1+9/25	.18078	1+9/25	.18078
Total			24.54869		26.03934		27.13549		29.17477		31.95798
125.788%			30.87031		32.75436		34.13319		36.69836		40.19930
Labor, Expense & Supplies			19.80334		20.94935		21.83179		23.44658		25.49117
			50.68265		53.70371		55.96498		60.14492		65.69047

Material		8-8		10-7		12-6		13-5		13-6		14-6		15-5		16-6	
Grain Box	.02381	68	1.61908		1.77056		1.77056	76	1.80956	76	1.80956	83	1.97615	89	2.11909	103	2.46243
Frame	.02221		3.43018		3.43018		3.43018	165	3.66465	165	3.66465	180	3.99780	184	4.08664	208	4.61968
Long Pole	.47526	1	.47526	1	.47526	1	.47526	1	.47526	1	.47526	2	.95052	2	.95052	2	.95052
Short "	.51856											1	.51856	1	.51856	1	.51856
Wheels	1.38124	2	2.76248	2	2.76248	2	2.76248	2	2.76248	2	2.76248	2	2.76248	2	2.76248	2+1/11	3.01362
Shoes & Feeds	.80660	8	6.45280	10	8.06600	12	9.67920	13	10.48580	13	10.48580	14	11.29240	15	12.09900	16	12.90560
Surveyor	.10425	1	.10425	1	.10425	1	.10425	1	.10425	1	.10425	1	.10425	1	.10425	1	.10425
Pressure Lever	.25698	1	.25698	1	.25698	1	.25698	1	.25698	1	.25698	2	.51396	2	.51396	2	.51396
Double Trees	.24415	1	.24415	1	.24415	1	.24415	1	.24415	1	.24415	2+1/26	.50710	2+1/26	.50710	2+1/26	.50710
Neck Yokes	.12077	1	.12077	1	.12077	1	.12077	1	.12077	1	.12077	2-1/12	.22141	2-1/12	.22141	2-1/12	.22141
Fixture Box	.13290	1	.13290	1	.13290	1	.13290	1	.3290	1	.13290	1+1/25	.13822	1+1/25	.13822	1+7/25	.17014
Total			15.59885		17.36353		18.97673		20.05680		20.05680		22.98293		24.02123		25.97727
125.788%			19.62148		21.84124		23.87045		25.22905		25.22905		28.90977		30.21583		32.67629
Labor, Expense & Supplies			11.17359		13.33508		13.36750		14.07413		14.07413		16.24060		16.93851		18.34753
			30.79507		34.17632		37.23795		39.30318		39.30318		45.15037		47.15434		51.02382

(Continued from above)

		18-6		20-5		20-6		22-6		26-5	
Grain Box	.02381	112	2.66672	110	2.61910	120	2.85720	131	3.11911	130	3.09530
Frame	.02221	224	4.97504	220	4.88620	232	5.15272	249	5.53029	249	5.53029
Long Pole	.47526	2	.95052	2	.95052	2	.95052	2	.95052	2	.95052
Short "	.51856	1	.51856	1	.51856	1	.51856	1	.51856	1	.51856
Wheels	1.38124	2+1/11	3.01362	2+1/11	3.01362	2+4/11	3.76704	2+4/11	3.76704	2+4/11	3.76704
Shoes & Feeds	.80660	18	14.51880	20	16.13200	20	16.13200	22	17.74520	26	20.97160
Surveyor	.10425	1	.10425	1	.10425	1	.10425	1	.10425	1	.10425
Pressure Lever	.25698	2	.51396	2	.51396	2	.51396	2	.51396	2	.51396
Double Trees	.24415	2+1/26	.50710	3-2/39	.69480	3-2/39	.69480	3+2/39	.77005	3+2/39	.77005
Neck Yokes	.12077	2-1/12	.22141	2+1/12	.26167	2+1/12	.26167	2+1/12	.26167	2+1/12	.26167
Fixture Box	.13290	1+7/25	.17014	1+7/25	.17014	1+7/25	.17014	1+9/25	.18078	1+9/25	.18078
			28.16012		29.86462		31.12286		33.46143		33.66402
125.788%			35.42005		37.56636		39.14882		42.09048		46.11894
Labor, Expense & Supplies			19.80334		20.94935		21.83179		23.44656		25.49117
			55.22339		58.51571		60.98061		65.53702		71.61011

1903-04 Steel Frame Shoe Drills

Material		8-8		10-7		12-6		13-5		13-6		14-6		15-5		16-6	
Grain Box	.02261	68	1.53748		1.68240		1.68240	76	1.71836	76	1.71836	83	1.87663	89	2.01229	103	2.32883
Frame	.01985		3.06603		3.06603		3.06603	165	3.27525	165	3.27525	180	3.57300	184	3.65240	208	4.12680
Long Pole	.42028	1	.42028	1	.42028	1	.42028	1	.42028	1	.42028	2	.84056	2	.84056	2	.84056
Short "	.49294											1	.49294	1	.49294	1	.49294
Wheels	1.40706	2	2.81412	2	2.81412	2	2.81412	2	2.81412	2	2.81412	2	2.81412	2	.81412	2+1/11	3.06995
Shoes & Feeds	.75194	8	6.01552	10	7.51940	12	9.02328	13	9.77522	13	9.77522	14	10.52716	15	11.27910	16	12.03104
Surveyor	.09106	1	.09106	1	.09106	1	.09106	1	.09106	1	.09106	1	.09106	1	.09106	1	.09106
Pressure Lever	.24681	1	.24681	1	.24681	1	.24681	1	.24681	1	.24681	2	.49362	2	.49362	2	.49362
Double Trees	.25707	1	.25707	1	.25707	1	.25707	1	.25707	1	.25707	2+1/26	.53391	2+1/26	.53391	2+1/26	.53391
Neck Yokes	.12640	1	.12640	1	.12640	1	.12640	1	.12640	1	.12640	2-1/12	.23173	2-1/12	.23173	2-1/12	.23173
Fixture Box	.13290	1	.13290	1	.13290	1	.13290	1	.13290	1	.13290	1+1/25	.13822	1+1/25	.13822	1+7/25	.17014
			14.70767		16.35647		17.86035		18.85747		18.85747		21.61295		22.57995		24.41258
125.788%			16.50048		20.57448		22.46618		23.72043		23.72043		27.18850		28.40287		30.70810
Labor, Expense & Supplies			11.17359		12.33508		13.36750		14.07413		14.07413		16.24060		16.93851		18.34753
			29.67407		32.90956		35.83368		37.79456		37.79456		42.42710		45.34138		49.05563

(Continued from above)

		18-6		20-5		20-6		22-6		26-5	
Grain Box	.02261	112	2.53232	110	2.48710	120	2.71320	131	2.96191	130	2.93930
Frame	.01985	224	4.44640	220	4.36700	232	4.60520	249	4.94265	249	4.94265
Long Pole	.42028	2	.84056	2	.84056	2	.84056	2	.84056	2	.84056
Short "	.49294	1	.49294	1	.49294	1	.49294	1	.49294	1	.49294
Wheels	1.40706	2+1/11	3.06995	2+1/11	3.06995	2+4/11	3.83744	2+4/11	3.83744	2+4/11	3.83744
Shoes & Feeds	.75194	18	13.53492	20	15.03880	20	15.03880	22	16.54268	26	19.55044
Surveyor	.09106	1	.09106	1	.09106	1	.09106	1	.09106	1	.09106
Pressure Lever	.24681	2	.49362	2	.49362	2	.49362	2	.49362	2	.49362
Double Trees	.25707	2+1/26	.53391	3-2/39	.73167	3-2/38	.73167	3+2/39	.81075	3+2/39	.81075
Neck Yokes	.12640	2-1/12	.23173	2+1/12	.27387	2+1/12	.27387	2+1/12	.27387	2+1/12	.27387
Fixture Box	.13290	1+7/25	.17014	1+7/25	.17014	1+7/25	.17014	1+9/25	.18078	1+9/25	.18078
Total			26.43755		28.05671		29.28850		31.46826		34.45341
125.788%			33.25527		35.29198		36.84142		39.58330		43.33826
Labor, Expense & Supplies			19.80334		20.94935		21.83179		23.44656		25.49117
			53.05861		56.24133		58.67321		63.02986		68.82943

"A" General & Selling Expenses etc. Source of information - used in part and copied on exhibit #3

Year Endg.	Territory Trav. Exp.	Salary	Home Office Trav. Exp.	Salary	Advertising	Printing	Interest	Insurance	Postage	Printing-Stationary	Taxes
1892	4159.16	5198.00		12900.00			3393.33	1304.70		2081.87	
1893	9406.09	9027.73	184.00	14904.00	1617.80		9350.81	1990.67		500.00 (2117.80)	
1894	8676.41	8734.04	811.63	8991.28	1288.33		6174.73	1344.37	793.98	205.80	683.19
1895	8396.12	9436.79	274.28	2468.46	2149.43		3185.05	1655.25	595.58	785.61	503.64
1896	10683.18	10492.12	289.88	4291.19	3383.09	Cr. Bal. =	(34.32)	1957.38	1046.07	693.49	781.87
1897	9072.41	10447.71	1083.77	8399.34	1650.22	" =	(1825.42)	2633.25	375.51	658.11	914.59
1898	12315.11	12950.79	155.06	8691.67	4968.28		4679.65	1286.10	744.97	918.97	981.33
1899	12723.72	12524.62	450.02	11162.52	2644.39	" =	(380.25)	2090.27	1306.02	1518.78	973.28
1900	11136.51	16216.38	292.83	9808.68	3333.81		801.16	2019.82	1488.92	1456.52	1344.73
1901	14445.14	16736084	402.23	10362.72	5377.72	250.00	5858.59	2623.45	1856.26	866.33	1330.21
1902	15950.47	13550.71	422.27	10281.42	5500.86	2093.23	816.47	2898.70	1033.66	708.35	2419.33
1903	16593.87	13469.12	426.06	10724.29	3749.37	1339.76	157.58	3995.63	1578.44	3.77	3196.06
1904	16970.63	13814.12	382.10	10684.10	4160.86	1396.84	5507.86	5233.17	1822.23	A/c Closed	3297.28

	Rent	Collect. Exp.	Litigation	Patent	Office Exp.	Gen. Exp.
1892				45.00		8228.24
1893						x15018.49
1894	170.00					6914.06
1895	231.00					7981.82
1896	37.00					6823.77
1897	35.00			153.00		9753.20
1898	35.00			853.37		12839.70
1899	205.00			1457.36		13490.24
1900	413.60	2188.37	512.34	3323.97		12943.78
1901	368.75	4584.23	1137.86	7107.63	27.23	8070.32
1902	149.48	3699.67	585.88	7906.19	491.97	7783.38
1903	50.00	2402.89	2427.18	5578.49	466.38	7261.69
1904	1192.69	2335.96	1426.70	1659.72	835.23	7137.97

x 1893 Gen'l. Exp. 52,163.99

Terr.	(Trav. Exp.	9406.09	
	(Terri. Sal.	9027.73	
Home	(Trav. Exp.	184.00	
	(Salary	14904.00	33,521.82
			18,642.17
	deduct exp. labor		3,623.68
			15,018.49
	" advertising		1,617.80
			13,400.69
	add insurance		1,990.67
			15,391.36

Schedule "A". A schedule of general and selling expenses etc. furnished me as a source of information. Same was used in part and copied on Exhibit 3. The work was prepared by Mr. Schmalzried and the aggregate of each year was compared by me with totals shown in the ledger account.

The attached card or slip (see item at right) shows the items for the year 1891-2 with the item of labor included.

1891-1892 Gen'l. Exp acct.		39,728.05
Deduct Trav. Expenses	4159.16	
" Salary	5198.00	
Interest	3393.33	
Insurance	1304.70	
Printing & Stationery	2081.87	
Patents	45.00	
Home Office Salary	12900.00	29,082.06
		10,645.99
Amt. Expense labor included		2,417.75
		8,228.24

"B" Schedule of Prices of Material 1892-1904

Invoice Price of different material used in construction of shoe drills.

	Pig Iron 1.26+ cents #	#2 SO. Soft Pig Iron per ton	Angle Steel per 100 lbs.	Axle Steel per 100 lbs.	Bar Steel per 100 lbs.	Mall. Iron cents per lb.	Shoe Steel per 100 lbs.	1¼" pipe cents per ft.	Pressure springs cents per lb.	Rubber tubes cents per lb.	48" wheel rims 2½ cents each	Wheel spokes per M-
1892-3	1.874	$13.75		2.231	1.675	3.528	2.89	5.21	5.185	32.5	13.26	1.8
1893-4	1.874	13.75		2.231	1.50(p.302)	3.528	2.92(p.314)	.0522	5.185	32.5	1.60	1.8
1894-5	1.885	14.	1.30	1.455	1.55	2.94	2.134	4.067	4.25	30.	12.76	1.942
1895-6	1.818	12.50	1.60	1.60	1.50	3.035	2.376	4.067	4.49	30.	12.76	1.942
1896-7	1.72	10.30	1.534	1.60	1.30	2.619	2.328	3.439	4.39	25.00	12.76	1.942
1897-8	1.673	9.26	1.275	1.45	.931	2.327	2.145	3.528	2.38	24.5	11.53	1.635
1898-9	1.713	10.15	1.325	1.45	.98	2.695	1.921	3.379	2.425	26.81	12.76	1.967
1899-00	1.809	12.30	2.275	2.182	2.156	3.25	3.775	8.247	4.	29.70	12.25	1.5435
1900-01	1.912	14.60	1.30	1.60	1.355	3.25	2.275	5.5	4.35	31.50	13.00	2.055
1901-02	1.893	14.18	1.85	1.90	1.625	3.25	3.045	6.187	3.25	27.93	13.26	1.867
1902-03	2.323	23.80	1.845	2.25	1.745	3.83	3.395	6.125	3.618	31.16	14.76	2.367
1903-4	2.131	19.50	1.75	1.75	1.72	3.68	3.15	5.321	3.	32.34	18.26	2.267

	Cge. Bolts Disct.	Mach. Bolts Disct.	Rivets Disct.	Cotters Disct.	Wood Screw F.H. Disct.	Wood Screw R.H. Disct.	Paints Red Primer per 100 #	Non-fading red per 100 #	Canary yellow cents per #	Varnish $ per gal.
1892-3	75-10-5-2	80-12½-2	60-10	80	70-10	65-10	$5.15	$14.85	6.375	1.09¼
1893-4	80-5	85-10	60-10	80	70	65-10	5.15	14.85	6.375	1.10
1894-5	85-25-2	85-20-2	65-10-2	80	85-10-10	75-10-10	.73	14.85	5.5	.95
1895-6	70-10-5-5-2	75-7½-5-2	65-10-7½-2	80-10-2	87½-2½-10-5-2	82½-10-10-5-2	.73	11.	5.88	.90
1896-7	65-10-10-2	70-2½-25-10-2	75-2	85-10-2	90-5-2½-2	85-2½-2	.73	10.78	5.88	.85
1897-8	80-5-2	80-10-2	80-10-10-2	80-5	87-10-10-5-2	85-10-5-2	.73	7.84	5.39	.855
1898-9	80-2½-2	80-10-2	80-10-2	85-10	87½-10-10-5-2½-2	85-10-5-2½-2	.73	6.125	4.655	.705
1899-00	60-10-2	60-10-10-2	60-10-5-2	85-10	87½-10-5-2½-2	75-10-5-2½-2	.73	7.84	4.655	617½
1900-01	75-10-5-2	80-10-2	75-10-2	85	80-10-5-2½-2½-7½-5	80-10-5-2	3.14	9.065	6.37	.617½
1901-02	90-2	70-10-5-2	75-10-2	75	90-10-5-2½-2	87½-10-5-2½-2	3.14	10.29	6.42	.617½
1902-03	60-10-10-2	65-10-5-2	80-5	90-10-5	90-10-10-5-2½-2	70	2.568	10.29	6.419	.76
1903-04	70-15-2	70-15-2	80-10-2	90-10-2	87½-10-10-5-2½-2	85-10-10-5-2½-2	2.548	9.8	6.419	.76

	Hard Wood Oak and Ash	Yellow Poplar	Yellow Pine
1892-3	$2.758 per M	$2.350 per M	$2.940 per M
1893-4	2.758	2.350	2.940
1894-5	2.2	2.350	2.940
1895-6	2.2	2.350	2.940
1896-7	2.2	2.350	2.744
1897-8	2.2	2.2	2.744
1898-9	2.4	2.2	2.646
1899-00	2.4	2.2	2.681
1900-01	2.8	2.2	2.646
1901-02	2.2	2.2	2.646
1902-03	2.5	2.5	3.283
1903-04	2.8	2.8	2.842

Schedule "B". A schedule of prices of material 1892 and 1893aand 1894 to 1904. This was furnished me and same is in the hand writing of Mr. Hoyt. Purchase contracts, invoices, etc. for the various years were referred to and a thorough test made to satisfy myself of the verity of those prices.

The prices shown in this schedule were evidently merely copied from those shown on schedule "C", being rearranged in better shape and not including prices for the years 1891 and 1892.

(This schedule has been recopied inserting the list for the year 1893-4.)

"C" Schedule of Prices of Material
1891-3
1894-1904

July 1	Brands Sheffield Pittsburg Nordard Ensley #2 Soft Pig Iron	Angle Steel	Axle Steel	Base rate Bar Steel	Mall Iron	Shoe Steel	14bmg 3" x 35" one pass Cold Rolled Steel	1¼" Pipe	Pressure spring F 107	F 108	Coiled Springs F 111	F 240a	F290	Flat Springs 1287 D 156 (Miller & Van)	D 164	S 61	S 62 Gibson	Rubber Tubes
1894	14.00 (1903)	1.30	1.455	1.60	.0294	2.134		4.067	.0425									30 ℔
1895	12.50	1.60	1.6005	1.50	.03035	2.3765		4.067	.0449					5.605				30 ℔
1896	10.30	1.534	1.6005	1.30	.02619	2.328		3.439	.0439					5.605				25 ℔
1897 Av.	9.26	1.27½	1.455	.931	.023275	2.145		3.528	.0238									.245
1898	10.15	1.325	1.455	.98	.02695	1.921		3.379	.02425			17.21		3.25				.26813
1899	12.30	2.275	2.1825	2.155	.0325	3.775		8.247	.04									.297
1900	14.60	1.30	1.50	1.355	.0325	2.275		5.50	.0435							4.90	3.038	.315
1901 Av.	14.18	1.85	1.90	1.62½	.0325	3.045	3.466	6.1875	.0325					5.88		5.292	3.43	.2793
1902	23.80	1.845	2.25	1.745	.0383	3.395	3.70	6.125	.03618		4.90	17.15	4.655	5.88	4.41	5.292	3.43	.31164
1903	19.50	1.75	1.75	1.72	.0368	3.15	4.10	5.32125	.03		4.753	16.76	4.557	5.39	4.067		3.92	.3234
1891+	15.90		2.3765	1.57	.0396	2.89		5.6503	.0575									.325
2	13.75		2.231	1.675	.03528	2.89		5.21	.05185									.325

	#32 Chain	Sprocket	Wheel Stock open link	Ellis 10 link	Wheel Rim	Spokes per M	Transfer Trade mark	Dowagiac	Cge. Bolt	Discount Mach. Bolt	Rivets	Cotters	Wood Screws F. H.	R. H.	Set Screw	Soft Brass
1894					.1276(1893)	19.42			85-25-2	85-20-2	65-10-2	80⅔	85-10-10	75-10-10	70-10	.115
1895			4.508	.01255				.03012	70-10-5-5-2	75-7½-5-2	65-10-7½-2	80-10-2	87½-2½-10-5-2	82½-10-10-5-2	65	.148
1896			4.45	.01255					65-10-10-2	70-2½-5-10-2	75-2	85-10-2	90-5-2½-2	85-2½-2	65-10-10	.13524
1897	3.55		3.773	.01255	.1153	16.35	.04012	.02887	80-5-2	80-10-2	80-10-10-2	80-5	87-10-10-5-2	85-10-5-2	70-10	.128
1898	3.55			.01255	.1276	19.67	.03512	.02887	80-2½-2	80-10-2	80-10-2	85-10	87½-10-10-5-2½-2	85-10-5-2½-2	70-10-10	.139
1899	3.66		6.42	.01504	.1225	15.435	.04512	.02887	60-10-2	60-10-10-2	60-10-5-2	85-10	82½-10-5-2½-2	75-10-5-2½-2	70-10-10	.194
1900				.01689	.13	20.55			75-10-5-2	80-10-2	75-10-2	85	80-10-5-2½-2½-5-7½	80-10-5-2	75-10-2	.1807
1901	3.46			.015	.1326	18.67		.02887	90-2	70-10-5-2	75-10-2	75	90-10-5-2½-2	87½-10-5-2½-2	70-10-2	.161
1902	3.66			.01666	.1476	23.67			60-10-10-2	65-10-5-2	80-5	90-10-5	90-10-10-5-2½-2	70-00	70-5	.161
1903	3.36		5.886	.01666	.1826	22.67	.04	.02887	70-15-2	70-15-2	80-10-2	90-10-2	87½-10-10-5-2½	85-10-10-5-2½	70-10-5	.148
1891&					13				75-10	80-12½		80-2	72½-2	67½-2	60	
2					.1326	18.00			75-10-5-2	80-12½-2	60-10	80	70-10	65-10	70	

	Paint Red Primer	Non-fading red	Canary Yellow	Varnish	Lumber Bld. Oil	Oak Plank	Lumber Poplar	Yellow Pine
1894	.0073		.055	.95	.64			29.40
1895	.0073	.11	.0588	.90	.50		23.52	
1896	.0073	.1078	.0588	.85	.34			27.44
1897	.0073	.0784	.0539	.855	.36	22.00	22.00	27.44
1898	.0073	.06125	.04655	.705	.4323	24.00	22.00	26.46
1899	.0073	.0784	.04655	.6175	.565	24.00	22.00	26.81
1900	.0314	.09065	.0637	.6175	.62	28.00	22.00	26.46
1901	.0314	.1029	.0642	.6175	.83	22.00	22.00	
1902	.02518	.1029	.06419	.76		25.00	25.00	32.83
1903	.02548	.098	.06419	.76	.40	28.00	28.00	28.42
1891 &	.06895	.12805	.06375	1.0925		27.58	23.52	27.44
2	.0515	.1485	.06375	1.0925	.4264	27.58	23.52	29.40

Schedule "C". A schedule of prices of material 1891 to 1893 and 1894 to 1904. This is in the hand-writing of Mr. Schmalzried and Schedule "B" was evidently merely a copy of this one rearranged in better shape and omitting some items that were not essential. It was necessary to use this Schedule "C" for prices for the years 1891 and 1892 as they were not copied on Schedule "B".

Sales July 1st 1891 - June 30/1903

"D" Schedule of Implements Sold 1891-1903

	Shoe Drills																Hoe Drills													
	8'	10'	11'	12'	13'	13'	14'	14'	15'	15'	16'	17'	18'	20'	20'	22	26	5	8'	9'	10'	10'	11'	12'	12'	12'	14'	16'	16'	16'	18	20'
1891-1892			409		590				710			947		686		577	165														
1892-1893			472		567				667			1360		576		835	101														
1893-1894			248		169				134			233		173		265	54														
1894-1895			178		140				116			227		154		251	42		56		46			21							
1895-1896			165		26	239			159	185		856		357		649	84		106		10			10							
1896-1897			183			227			95	182		795		171		667	55		47		40	10		20		50					
1897-1898	6		338		247	544			303	459		1324		333		1223	90		122		74	51	2	47		22	2	42		3	
1898-1899	3		225	44	363	434	113		251	238	463	834	55	214	472	1159	81		25		49	22	58	49	2	18		37	20	6	8
1899-1900	14	61	78	161	204	175	146		168	110	529	612	87	181	742	1213	45	28	6		22	20	81	34		15		19	3		8
1900-1901	3	26	36	95	153	77	94		156	61	300	201	229	44	599	720	18	26	65		41	3	40	36		2	1	11			
1901-1902	8	49	22	118	185	42	59		230	18	208	85	156	88	378	539	13	25	34	1	26	15	28	47		10		11	4	28	2	8
1902-1903	1	15	21	60	245	46	48		226	7	194	66	112	29	304	477	10	33	52	7	18		7	16	2	1	1	2			
	35	151	2375	378	2899	1784	460		3235	1260	1694	7528	639	3016	2495	8608	698	12	513	8	326	121	216	280	4	116	4	122	4	49	11	24

	Steel Arc.			Single Disk																						Double Disk							
	8	10	13	6'	8'	9'	10'	10'	11'	12'	12'	12'	14'	14'	14'	16'	16'	16'	18'	18'	20'	20'	22'	17	14" Sower	12'	14'	16'	17'	18'	20'	22'
1891-1892																																
1892-1893																																
1893-1894																																
1894-1895																																
1895-1896	36																															
1896-1897	72	65																														
1897-1898	268	119								1													30	18								
1898-1899	82	76					22	25		14		3				34	3					32										
1899-1900	48	58		12	129		62	150		100		56				60		7				61	5									
1900-1901	24	64		92	281		131	222		148		44				118		7				141										
1901-1902	78	75		101	140	1	197	228		10	95	67	19	1	3	12	51	2	1	5		77	3			32	18	81	1	59	155	144	
1902-1903	12	29	12	5	113	45	129	106	6	111	3	52	23			75	1	1	20			120	48		1011	104	67	150	2	90	239	211	
	620	486	12	210	663	46	541	731	6	384	98	222	42	1	3	299	55	17	21	5	451	81	18	1011	136	85	231	3	149	394	355	

	Bar Seeders					Mich.		
	12	14	16	20	24	12	16	20
1891-1892								
1892-1893								
1893-1894								
1894-1895	22	38	9	3	4			
1895-1896								
1896-1897	45	16	29	11	4			
1897-1898	181	41	19	6	7	52	244	198
1898-1899	210	23	16	12	1	68	297	235
1899-1900	202	18	2			74	184	174
1900-1901	197	4	6			29	121	137
1901-1902	241	33	4	11		17	47	56
1902-1903	106	25	5	1		35	59	27
	1206	198	90	44	16	275	952	827

Total Sales	Shoe	Hoe	SD	DD	Seeder	Mich.	Sower	Total	Territory & Office Exp.	Aver. per drill
91-92	4024							4024		
92-93	4598							4598	35,139.62	7.64
93-94	1776							1776	28,501.69	16.04
94-95	1108	123			76			1207	22,725.08	18.82
95-96	2720	162						2682	29,139.46	10.11
96-97	2375	304			145			2824	30,653.18	10.85
97-98	4867	752	49		254	494		6416	39,080.91	6.09
98-99	4949	450	133		262	600		6394	39,505.27	6.18
99-00	4526	342	642		222	432		6164	42,976.58	6.97
00-01	2812	413	1184		207	287		4903	51,928.88	10.59
01-02	2198	390	1013	490	289	120		4500	52,405.90	11.64
02-03	1861	192	850	803	139	121		4026	47,365.60	11.76

Schedule "D". A schedule of implements sold from 1891 to 1903. This is in the hand writing of Mr. Schmalzried from tally sheets. I did not in any way verify the tally sheets except to foot them for the year 1891 and 1892.

Weight lbs. "E" Schedule of Weights.

	Steel Frame Shoe Drill														Wood Frame Shoe Drill										Hoe Drill
	6	10	7	12	6	13	5	13	6	14	6	15	5	16	6	18	6	20	5	20	6	22	6	26	5	11	6	18
(3) Grain Box	68	74		74		76		76		83		89		103		112		110		120		131		130		(12)77		72	
(2) Frame	155	162		155		165		165		180		184		208		224		220		232		249		249		(13)138		145	
(4) Poles (long)	30	30		30		30		30		60		60		60		60		60		60		60		60		30		30	
(11) " (short)										25		25		25		25		25		25		25		25					
(5) Wheels	110	110		110		110		110		110		110		120		120		120		150		150		150		110		110	
(1) Furrow Opener & Feed.	216	270		324		351		351		378		405		432		486		540		540		594		702		297		351	
(6) Surveyer	3	3		3		3		3		3		3		3		3		3		3		3		3		3		3	
(7) Pressure Lever	9	9		9		9		9		18		18		18		18		18		18		18		18		9		9	
(8) Double trees	13	13		13		13		13		27		27		27		27		37		37		41		41		13		13	
(9) Neck Yokes	6	6		6		6		6		11		11		11		11		13		13		13		13		6		6	
(10) Fixture Box	25	25		25		25		25		26		26		32		32		32		32		34		34		25		25	
	635	702		749		788		788		921		958		1039		1118		1178		1230		1318		1425		708		764	

	Wood Frame Shoe Drill													Hoe Drill
	5	13	6	15	5	15	6	17	6	20	5	22	6	26	5	18	6
(3) Grain Box		72		80		86		109		111		123		117		(14) 74	
(2) Frame		145		156		174		190		219		215		267		269	209
(4) Poles (long)		30		30		60		60		60		60		60		60	30
(11) " (short)																	
(5) Wheels		110		110		110		120		120		150		150		150	110
(1) Furrow Opener & Feed.		351		351		405		405		479		540		594		702	216
(6) Surveyer		3		3		3		3		3		3		3		3	3
(7) Pressure Lever		9		9		18		18		18		18		18		18	9
(8) Double trees		13		13		27		27		27		37		41		41	13
(9) Neck Yokes		6		6		11		11		11		11		13		13	6
(10) Fixture Box		25		25		27		27		32		32		34		34	25
		764		783		914		937		1078		1147		1303		1407	695

Schedule "E". A schedule of weights of the various parts of wood frame and steel frame shoe drills, and a 12-6 hoe drill tabulated and arranged to exhibit the proportions one to another of each part and the grand total thereof. This is in the hand writing of Mr. Hoyt. I did not verify same in any way but made use of the figures as shown thereon to determine the proportion of costs from the size of machine used as a base to the various sizes that were manufactured.

Sales, Michigan Drills.

No. 1.

	Size 12	16	20			
7-1-97 to 6-30-98	24	103	118	Dist.	5.00 Fgo.	Frt. 56¢
	28	141	80	"	5.00 Mpls	" 28½
7-1-98 to 6-30-99	22	78	89	"	5.00 Fgo.	" 56¢
	46	219	146	"	5.00 Mpls.	" 28½
7-1-99 to 6-30-00	74	184	174	"	2.50 "	" 28½
7-1-00 to 6-30-01	29	121	137	"	2.50 "	" 28½
7-1-01 to 6-30-02	17	70	56	"	2.50 "	" 28½
7-1-02 to 6-30-03	35	59	27	"	2.50 "	" 28½
7-1-03 to 6-30-04	14	22		"	2.50 "	" 28½
	289	997	827	= 2113 Machines		

No. 2.

Weights 12	16	20	Rate 56¢	Freight Rate 28½
760			4.356	2.166
	1030		5.768	2.9335
		1210	6.776	3.4485

No. 3. List Prices.

12	40.00
16	52.60
20	65.00

No. 4.

Proceed 56¢ Rate Dist. $5.00 Each

12	16	20
30,044	41,732	53,224

Proceeds 28½ Rate Disct. 5.00 each

32.834	44.5645	56.5515

Proceeds 28½ Rate Disct. 2.50 each

35.334	47.0665	59.051

No. 5.

				Proceeds of Machines			
7-1-97 to 6-30-98	24			30.644	735.456		
		103		41.732	4298.396		
			118	53.224	6280.432	11,314.284	
	28			32.834	919.352		
		141		34.5645	4873.594		
			80	56.5515	4524.120	10,317.066	21,631.35
7-1-98 to 6-30-99	22			30.644	674.168		
		78		41.732	3255.096		
			89	53.224	4738.936	8,666.20	
	46			32.834	1510.364		
		219		34.5645	7569.625		
			146	56.5515	8256.519	17,336.508	26,002.708
7-1-99 to 6-30-00	74			35,334	2614.716		
		184		47.0665	8660.236		
			174	59.051	10274.874		21,549.826
7-1-00 to 6-30-01	29			35,334	1024.686		
		121		47.0665	5695.046		
			137	59.051	8089.987		14,809.719
7-1-01 to 6-30-02	17			35.334	600.678		
		70		47.0665	3294.655		
			56	59.051	3306.856		7,202.189
7-1-02 to 6-30-03	35			35.334	1236.690		
		59		47.0665	2776.923		
			27	59.051	1594.377		5,607.99
7-1-03 to 6-30-04	14			35.334	494.676		
		22		47.0665	1035.463		1,530.139
	289	997	827		Net Amount Received		$98,333.92

The statement attached is a record of sales of Michigan Drills during the fiscal years ending June 30, 1898 and June 30, 1904, inclusive. The statement is divided into five sections and so marked with red ink.

Section 1 shows the number of machines sold each year, together with t'e contract discount and rate of freight applicable thereto.

Section 2 gives the weight of each machine and shows the amount of freight on each machine on the basis of 56¢ Fargo rate and 28½¢ Minneapolis rate.

Section 3 gives the list price of the different sizes of machines contained in this statement.

Section 4 shows the amount realized per machine. This section is divided into three parts. The first shows the calculations based upon the 56¢ rate of freight and discount of $5.00. The second part shows the result after considering the 28½¢ rate and discount of $5.00. The third part shows the amount realized per machine on the basis of the 28½¢ rate and discount of $2.50.

Section 5 shows the amount received on the machines for each year, also the total received for all machines shown thereon.

General & Selling Expenses

Schedule of General & Selling Expenses.

Accounts	1891-2	1892-3	1893-4	1894-5	1895-6	1896-7	1897-8	1898-9
Salaries of Officers & Clerks	12,900.00	14,904.00	8,991.28	2,468.46	4,291.19	8,399.34	8,691.67	11,182.52
General Traveling Expense		184.00	811.63	274.28	289.88	1,083.77	155.06	450.02
Postage			793.86	595.56	1,046.07	375.51	744.97	1,306.02
Printing & Stationery	2,081.87	2,117.80	205.80	785.61	693.49	658.11	918.97	1,518.78
Office Expense					94.75	40.79		482.24
Collection Expense								
Bad Debts	3,083.93	3,083.93	3,083.93	3,083.93	3,083.93	3,083.93	3,083.93	3,083.93
Territorial Salaries	5,198.00	9,027.73	6,734.04	9,436.79	10,492.12	10,447.71	12,950.79	12,524.62
" Trav. Exp.	4,159.16	9,406.09	8,676.41	8,396.12	10,683.18	9,072.41	12,315.11	12,723.72
Rent			170.00	231.00	37.00	35.00	35.00	205.00
Advertising		1,617.80	1,288.33	2,149.43	3,383.09	1,650.22	4,968.28	2,644.39
Repairs Free	2,298.88	2,365.81	2,544.99	1,339.37	978.80	1,668.76	1,748.00	2,689.37
Cash Discount Allowed	13,183.40	9,779.93	6,376.45	7,416.40	6,430.70	5,778.26	7,352.26	5,989.32
	42,905.24	52,487.09	41,676.72	36,176.95	41,504.20	42,293.79	52,964.04	54,779.93

Accounts	1899-1900	1900-01	1901-02	1902-03	1903-04
Salaries of Officers & Clerks	9,808.68	10,382.72	10,281.42	10,724.29	10,684.10
General Traveling Expense	292.85	402.23	422.27	426.06	382.10
Postage	1,488.92	1,856.26	1,133.66	1,578.44	1,522.93
			2,093.23		1,396.84
Printing & Stationery	1,456.52	866.33	708.35	3.77	
		156.59	201.18	10.90	
Office Expense	55.49	27.23	491.97	466.38	835.23
Collection Expense	2,188.37	4,584.23	3,699.67	2,402.89	2,335.96
Bad Debts	3,083.93	3,083.93	3,083.93	3,083.93	3,083.93
					1,936.05
Territorial Salaries	16,216.38	16,736.84	16,550.71	13,469.12	13,814.12
					3,858.14
" Trav. Exp.	11,136.51	14,445.14	15,950.47	16,593.87	16,340.84
Rent	413.60	368.75	149.48	50.00	1,192.69
Advertising	3,333.81	5,377.72	5,500.86	3,749.37	4,160.86
Repairs Free	2,550.81	1,745.91	1,614.65	2,521.88	1,726.56
Cash Discount Allowed	9,960.99	9,842.72	11,067.93	8,647.36	7,469.31
	61,976.84	69,876.60	72,949.78	63,728.26	69,739.66

Implements	1891-2	1892-3	1893-4	1894-5	1895-6	1896-7	1897-8	1898-9	1899-00	1900-01	1901-02	1902-03	1903-04
Sold	4,024	4,598	1,776	1,207	2,882	2,824	6,416	6,394	6,164	4,903	4,600	4,026	
Av. Exp.	10.66243	11.41520	23.46662	29.97262	14.40118	14.97655	8.25499	8.56740	10.05465	14.25181	16.21106	15.82918	
Sales													
(Increase)					139%		127%						
(Decrease)				70%		2%		3/10%	4%	20%	8%	11%	
Expenses													
(Increase)					15%	2%	28%	3%	13%	13%	4%		9%
(Decrease)				16%								13%	

Exhibit 3. Schedule of General and Selling expenses, copied in part from information furnished, per schedule "A", which information was located or tested on the ledgers and other expenses were added thereto which were taken from the books of account by me.

The totals of the tabulated expenses for each year are shown respectively under their proper headings and the total of implements sold determined from schedule "D" was transferred hereon followed by the result of calculation showing the average expense per implement sold for each year.

Next appears at the bottom of the page comparisons by percentage of the increase and decrease of sales and expenses for the several years.

Final Summary.

Wood Frame Shoe Drills

	1891-1892			1892-1893			1893-1894			1894-1895		
	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit
11-6	52.50	43.71514	8.78486	52.50	44.25682	8.24318	52.50	57.24228	4.74228-	52.50	60.78723	8.28723 -
13-5												
13-6	60.00	47.61976	12.38024	60.00	48.10912	11.89088	60.00	61.24926	1.24926-,	60.00	64.31030	4.31030 -
15-5	62.38160	53.62858	8.75302	62.38160	54.07835	8.30325	62.38160	67.36570	4.98410-	62.38160	69.84820	7.46660 -
15-6												
17-6	68.96320	60.22470	8.73850	68.96320	60.65897	8.30423	68.96320	74.10554	5.14234-	68.96320	75.92069	6.95749 -
20-5	83.57680	65.27230	18.30450	83.57680	65.56677	18.01003	79.82680	79.24744	.57936	79.82680	80.43718	.61038 -
22-6	90.20320	72.36629	17.83691	90.20320	72.67855	17.52465	90.20320	86.53504	3.66816	90.20320	86.98626	3.21694
26-5	100.87080	78.36964	22.50116	100.87080	78.51920	22.35160	100.87080	92.68860	8.18220	100.87080	92.34702	8.52378

	1895-1896			1896-1897			1897-1898			1898-1899		
	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit
11-6	52.50	45.46755	7.03245	48.75	44.98230	3.76770	48.75	35.85575	12.89425	48.75	36.63775	12.11225
13-5	60.00	48.34973	11.65027	56.25	47.73411	8.51589	56.25	38.29875	17.95125	56.25	39.12689	17.12311
13-6	60.00	49.05023	10.94977	56.25	48.42324	7.82676	56.25	38.96324	17.28676	56.25	39.79328	16.45672
15-5	62.38160	54.63596	7.74564	58.63160	53.78703	4.84457	58.63160	43.92926	14.70234	58.63160	44.82936	13.80224
15-6	62.25280	55.46132	6.79148	58.50280	54.59923	3.90357	58.50280	44.71244	13.79036	58.50280	45.61589	12.88691
17-6	68.96320	60.75786	8.20534	68.96320	59.72251	9.24069	68.96320	49.42788	19.53532	68.96320	50.39638	18.56682
20-5	79.82680	65.33522	14.49158	79.82680	64.09635	15.73045	79.82680	53.32720	26.49960	79.82680	54.37271	25.45409
22-6	90.20320	71.97690	18.22630	90.20320	70.53001	19.67319	90.20320	59.26443	30.93877	90.20320	60.42113	29.78207
26-5	100.87080	77.43739	23.43341	97.12080	75.73509	21.38571	97.12080	63.86317	33.25763	97.12080	65.10945	32.01135

Steel Frame Shoe Drills

	1899-1900			1900-1901			1901-1902			1902-1903			1903-1904		
	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit	Net Sales Price	Cost & Expenses	Net Profit
8-8	42.00	40.10967	1.89033	47.00	42.07013	4.92987	47.00	44.50538	2.49462	47.00	46.62425	.37575			
10-7	45.00	43.44921	1.55079	52.00	45.17782	6.82218	52.00	47.59160	4.40840	52.00	50.00550	1.99450	52.00		
12-6	52.50	46.49625	6.00375	58.00	47.99479	10.00521	58.00	50.38714	7.61286	58.00	53.06713	4.93287	58.00		
13-5	56.25	48.55584	7.69416	58.00	49.86182	8.13818	58.00	52.27939	5.72061	58.00	55.13236	2.86764	58.00		
13-6	56.25	48.55584	7.69416	60.00	49.86182	10.13818	60.00	52.27939	7.72061	60.00	55.13236	4.86764	60.00		
14-6	57.37515	54.29614	3.07901	65.37515	55.17093	10.20422	65.37515	57.65783	7.71732	65.37515	60.97955	4.39560	65.37515		
15-5	61.01970	56.27027	4.74943	65.26970	56.99952	8.27018	65.26970	59.48897	5.78073	65.26970	62.98352	2.28618	65.26970		
16-6	68.28885	60.05784	8.23101	75.03885	60.48162	14.55723	75.03885	63.04801	11.99084	75.03885	66.85300	8.18585	75.03885		
18-6	80.81370	64.22069	16.59301	81.81370	64.29555	17.51815	81.81370	66.89371	14.91999	81.81370	71.05257	10.76113	81.81370		
20-5	82.89270	67.50438	15.38832	86.64270	67.37997	19.26273	86.64270	69.91477	16.72793	86.64270	74.34489	12.29781	86.64270		
20-6	82.74450	69.82810	12.91640	86.49450	69.57784	16.91666	86.49450	72.17604	14.31846	86.49450	76.80979	9.68471	86.49450		
22-6	89.99370	74.33825	15.65545	96.24370	73.73314	22.51056	96.24370	76.35598	19.88772	96.24370	81.36620	14.87750	96.24370		
26-5	100.93875	80.38655	20.55220	105.93875	79.32152	26.61723	105.93875	81.90153	24.03722	105.93875	87.43929	18.49946	105.93875		

Exhibit 4, Final Summary exhibiting net sales price, cost and expenses, and net profits as follows: (upper half of this sheet)

Page 1, wood frame shoe drills of various sizes for the years 1891 to 1899.

Page 2(lower half) steel frame shoe drills of various sizes, the years 1899 to 1904, 1904 being incomplete on account of the sales not having been determined thus far by Mr. Schmalzried.

The red figures shown under net profit in the second triple column on page 1 indicate net losses.

The net sales price was dertmined for each year by me from sample sales contracts that were produced from the files: I made due calculation for trade discounts and freight allowances. In such years as the contracts called for delivery at point of destination the freight rate to Fargo, N.D., was used, and such years as point of delivery was Minneapolis the freight rate to Minneapolis was used. The larger size of machines, from 15-5 up being considered as sold in the Northwest territory and the smaller size, below 15-5 were considered as sold in home trade wherein freight allowance is not made. The amount shown for cost and expenses are the result of adding to the totals shown for cost on the various pages of Exhibit 2, the average expense as per Exhibit 3. The pages shown for net profit are the difference between net sales price and cost and expenses.

1899-1900 12-6 Hoe Drill

Material		Frame			Hoe and Feed		Zig-Zag Lever	
Angle Steel		.02275	38.125	.86734				
Oak Lumber		.0024	7.083	.01699				
Primer		.0073	.125	.00091				
Red		.0784	.333	.02611				
Varnish		.6175	.01539	.00950				
Gray Iron		.01809	47.063	.85137	8.	.14472		
Mall. "		.0325	28.	.91000			4.406	.14320
Axle Steel		.02182	36.75	.80189				
1" Pipe		.0415	18.54	.76941				
Bar Steel	+.25	.02405	.281	.00676	.689	.01655		
" "	.20	.02355	2.5	.05888				
Coil Spring				.01750		.02400		.00500
Machine Bolts	60-10-10-2		1.3216	.41964	.0768	.02438	.048	.01524
Carriage "	60-10-2		.2144	.07564				
Set Screws				.00063				
Cotters	85-10		.1245	.01681	.015	.00203		
Washers				.00422				
Bar Steel	.10	.02255			4.875	.10993		
High Carbon Steel						.01307		
Rivets	30-10-5-2				.00635	.00213	.00651	.00218
Feed (See 1/5)						.12324		
Bar Steel	+1.25	.03405					.013	.00443
" "	.15	.02305					2.	.04610
			4.85360			.46005		.21615
Labor, Expense & Supplies			1.77991			.14438		.08195

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Summary

Material		
Frame	4.85360	
Hoe & Feed .46005 x 12	5.52060	
Zig-Zag Lever	.21615	
Grain Box (See 2/10)	1.51100	
Long Pole "	.38545	
Wheels "	2.44574	
Surveyor "	.08838	
Pressure Lever "	.25039	
Double Trees "	.24502	
Neck Yokes "	.12569	
Fixture Box "	.13290	
		15.77493
125.788% =	19.84325	
Labor, Expense & Supplies		
Frame	1.77991	
Hoe & Feed .14438 x 12	1.73256	
Zig-Zag Lever	.08195	
Grain Box (see 2/9)	.77802	
Long Pole "	.21394	
Wheels "	.94640	
Surveyor "	.08294	
Pressure Lever "	.09553	
Double Trees "	.11919	
Neck Yokes "	.05775	
Fixture Box "	.21000	6.09819
193.381% =	11.79270	

19.84325 + 11.79270 = 31.63595

Profit and Loss Statement of Dowagiac Manufacturing Co. (By O. Schmalzried).

				Gain	Loss
6/30/92	To General Expense	$38953.15			
	Interest	3393.33			
	Printing & Sta.	2081.87			
	Insurance	1304.70			
	Patents	45.00	$45778.05		
	Depreciation:				
	Machy. & Tools	5844.45			
	Real Est.	7434.79	13279.24		
			59057.29		
	Cr.				
	By Mdse. - Gain		102605.98	43548.69	
6/30/93	To General Expense	65643.27			
	Fire Loss at Fgo.	2174.50	67817.77		
	Cr.				
	By Mdse. - Gain		181535.44	114717.67	
6/30/94	To General Expense	46945.59			
	Depreciation- Machy.	1176.00	48121.59		
	Cr.				
	By Mdse. - Gain		31897.47		16224.12
6/30/95	To General Expense	39781.47			
	Depreciation- Machy.	1113.62	40895.09		
	Cr.				
	By Mdse. Gain		43325.68	2430.59	
6/30/96	To General Expense	43801.92			
	Depreciation- Machy.	3663.80			
	" Real. Est.	1922.59	49388.31		
	Cr.				
	By Mdse. Gain		110454.78	61066.47	
6/30/97	To Expense	43360.29			
	Office Fur. & Fixt.	40.79			
	Machy. Repairs	2220.24			
	Machy. & Tools	122.61			
	Expense Labor	5517.47	51251.40		
	Bills Rec. to make record agree with Ledger		3043.67		
	Bills Pay. same reason		4.28		
			54299.35		
	Cr.				
	By Mdse. Gain		129278.49	74979.14	
6/30/98	To Expense	61420.20			
	Real Estate	3766.09			
	Machy. & Tools	1538.89			
	Machy. Repairs	5429.97			
	Expense Labor	13143.77	85298.92		
	Cr.				
	By Mdse Gain		251027.88	165728.96	
6/30/99	To Expense	74965.09			
	Macy. & Tools	9733.45			
	Real Est.	8829.64			
	Office Fur. & Fixt.	482.24			
	Live Stock & Fixt.	38.21	94048.63		
	Cr.				
	By Mdse. Gain		220806.20	126757.57	
6/30/00	To Expense	$88678.42			
	Live Stock & Fixt.	20.79			
	Office Fur. & Fix.	55.49			
	Machy. & Tools	1409.69			
	Machy. Repairs	7084.59			
	Real Est.	36.00	97284.78		
	Cr.				
	By Mdse. Gain		157679.45	60414.67	
6/30/01	To Expense	95980.65			
	Live Stock & Fix.	63.44			
	Office Fur. & Fix.	156.59			
	Machy. & Tools	2727.30			
	Machy. Reps. & Stock	3720.25			
	Pattern Labor & "	4175.37			
	Real Est.	60.59	106884.16		
	Fire Loss at Abercrombie, N.D.		656.13		
			107540.29		
	Cr.				
	By Mdse. Gain		13636.49		93903.80
6/30/02	To Expense	79421.54			
	Office Fixt. & Fur.	207.68			
	Live Stock & Fix.	126.02			
	Machy. & Tools.	6076.06			
	Machy. Reps. & Stock	2765.56			
	Pattern Labor & "	3957.65			
	Real Est.	1586.19	94140.68		
	Cr.				
	By Mdse. Gain		119666.72	25426.04	
6/30/03	To Expense	72156.85			
	Office Fur. & Fix.	121.14			
	Machy. & Tools	6047.96			
	Real Est.	988.87	79314.80		
	Cr.				
	By Mdse.- Gain		37623.79		41691.01
				675069.90	151818.93

Gains 675069.90
Loss 151818.93
Gain $523250.97

Bad Debts Charged Loss (By Mr. Schmalzried)

Originating	1892	$ 2364.78
	1893	10650.80
	1894	3762.78
	1895	4977.45
	1896	4766.33
	1897	3415.13
	1898	1619.49
	1899	1791.22
	1900	2012.87
	1901	3386.01
	1902	1321.45
	1903	703.87
		$40772.18

SCHEDULE I.

This schedule contains the net sales price of the different machines manufactured and sold by the Dowagiac Company from 1891 to 1904. This net sales price was secured by taking the contract sales price, as shown by the actual sales contracts, and deducting therefrom the trade discount.

As stated in the caption, the freight allowance and cash discount were not deducted.

SCHEDULE I Net Sales Price (freight allowance and cash discounts not deducted.)

Wood and Steel Frame Shoe Drill

Year	8-8	10-7	11-6	12-6	13-5	13-6	14-6	15-5	15-6	16-6	17-6	18-5
1891-92			52.50			60.00		67.50			75.00	
1892-93			52.50			60.00		67.50			75.00	
1893-94			52.50			60.00		67.50			75.00	
1894-95			52.50			60.00		67.50			75.00	
1895-96			52.50			60.00	63.75	67.50		71.25	75.00	80.00
1896-97			48.75		56.25	56.25	60.00	63.75	63.75	71.25	75.00	80.00
1897-98	42.00		48.75		56.25	56.25	60.00	63.75	63.75	71.25	75.00	80.00
1898-99	42.00		48.75		56.25	56.25	60.00	63.75	63.75	71.25	75.00	80.00
1899-00	42.00	45.00	48.75	52.50	56.25	56.25	60.00	63.75	63.75	71.25	75.00	85.00
1900-01	47.00	52.00	52.00	58.00	58.00	60.00	68.00	68.00	70.00	78.00	80.00	85.00
1901-02	47.00	52.00	52.00	58.00	58.00	60.00	68.00	68.00	70.00	78.00	80.00	85.00
1902-03	47.00	52.00	52.00	58.00	58.00	60.00	68.00	68.00	70.00	78.00	80.00	85.00
1903-1904	47.00	52.00	52.00	58.00	58.00	60.00	68.00	68.00	70.00	78.00	80.00	85.00

Year	20-5	20-6	22-6	26-5
1891-92	90.00		97.50	108.75
1892-93	90.00		97.50	108.75
1893-94	86.25		97.50	108.75
1894-95	86.25		97.50	108.75
1895-96	86.25		97.50	108.75
1896-97	86.25	86.25	93.75	105.00
1897-98	86.25	86.25	93.75	105.00
1898-99	86.25	86.25	93.75	105.00
1899-00	86.25	86.25	93.75	105.00
1900-01	90.00	90.00	100.00	110.00
1901-02	90.00	90.00	100.00	110.00
1902-03	90.00	90.00	100.00	110.00
1903-04	90.00	90.00	100.00	110.00

Single Disk Drill

Year	6-8	8-8	9-7	10-7	10-8	11-7	12-6	12-7	12-8	14-6
1897-98						48.75			56.25	
1898-99		43.50		48.75	48.75		56.25		60.00	
1899-1900	38.00	43.50		48.75	48.75		56.25		60.00	
1900-01	38.00	45.00		53.00	55.00		60.00		65.00	
1901-02	38.00	45.00	48.00	53.00	55.00		60.00	60.00	72.00	74.00
1902-03	37.00	44.00	48.00	53.00	55.00	58.00	59.00	60.00	68.00	70.00
1903-04	37.00	44.00	48.00	53.00	55.00	58.00	59.00	60.00	68.00	70.00

Year	14-7	14-8	16-6	16-7	16-8	18-6	18-7	20-6	20-7	22-6
1897-98		63.75		75.00					93.75	93.75
1898-99			75.00		79.75				93.75	
1899-00			75.00		79.75				93.75	93.75
1900-01			80.00		90.00				100.00	105.00
1901-02	74.00	74.00	80.00	82.00	88.00	90.00	90.00		100.00	105.00
1902-03			80.00	82.00	88.00	90.00	90.00	95.00	100.00	105.00
1903-04			80.00	82.00	88.00	90.00	90.00	95.00	100.00	105.00

Plain Hoe Drill.

Year	5	8-8	9-7	10-7	10-8	11-7	12-6	12-7	12-8	14-6	16-6	16-7	16-8	18-7	20-7
1894-95		34.50		40.50	40.50	42.75		45.00		50.00	54.00			72.00	
1895-96		34.50		40.50	40.50	42.75		45.00		50.00	54.00			72.00	
1896-97		36.00		40.50	41.25	42.75	45.00		46.50	50.00	54.00			72.00	
1897-98		36.00		40.50	41.25	42.75	45.00		46.50	50.00	54.00			60.00	63.75
1898-99		36.00		40.50	41.25	42.75	45.00	45.00	46.50	50.00	54.00		56.25	60.00	63.75
1899-00	14.00	36.00		40.50	41.25	42.75	45.00		48.75	50.00	54.00		56.25	60.00	63.75
1900-01	14.00	40.00		43.00	44.00	46.00	50.00		55.00	62.00	68.00		72.00	76.00	80.00
1901-02	14.00	37.00	40.00	45.00	46.00	48.00	48.00	50.00	60.00	62.00	67.00	68.00	75.00	80.00	85.00
1902-03	14.00	37.00	40.00	45.00	46.00	48.00	48.00	50.00	60.00	62.00	67.00	68.00	75.00	80.00	85.00
1903-04	14.00	37.00	40.00	45.00	46.00	48.00	48.00	50.00	60.00	62.00	67.00	68.00	75.00	80.00	85.00

SCHEDULE I Page 2. Net Sales Price (freight and cash discounts not deducted)

	Double Disc Drill							Steel Age			Sower	Broadcast Seeders				
Year	12-6	14-6	16-6	17-6	18-6	20-6	22-6	8	10	13	14"	12	14	16	20	24
1894-95												31.50	36.00	40.50	52.50	60.00
1895-96								20.00	25.00			31.50	36.00	40.50	52.50	60.00
1896-97								20.00	25.00			31.50	36.00	40.50	52.50	60.00
1897-98								20.00	25.00			31.50	36.00	40.50	52.50	60.00
1898-99								20.00	25.00			31.50	36.00	40.50	52.50	60.00
1899-00								22.50	27.50			36.00	39.00	46.50	54.00	61.50
1900-01								22.50	27.50			40.00	45.00	55.00	65.00	75.00
1901-02	64.00	75.00	86.00	90.00	94.00	100.00	111.00	22.50	27.50			35.00	38.00	55.00	65.00	75.00
1902-03	64.00	75.00	86.00	90.00	94.00	100.00	111.00	22.50	27.50	42.50	27.50	33.00	36.00	55.00	65.00	75.00
1903-04	64.00	75.00	86.00	90.00	94.00	100.00	111.00	22.50	27.50		27.50	33.00	36.00	55.00	65.00	75.00

	Michigan Drill		
Year	12	16	20
1894-5			
1895-6			
1896-7			
1897-8	35.00	47.50	60.00
1898-9	35.00	47.50	60.00
1899-0	37.50	50.00	62.50
1900-1	37.50	50.00	62.50
1901-2	37.50	50.00	62.50
1902-3	37.50	50.00	62.50
1903-4	37.50	50.00	62.50

SCHEDULE II.

This schedule gives the proceeds received by the Dowagiac Mfg. Company from the sale of their different machines during the years 1891 to 1903, freight allowances and cash discounts not being deducted. Pages 1 and 2 contain the proceeds derived from the sale of the Shoe Drills; page 3 of the Single Disk Drills; page 4 of the Plain Hoe Drills; page 5 of the Double Disk Drills and Broadcast Seeders; page 6 of the Michigan Drills; page 7 of the Steel Age Drills; page 8 gives a summary of the proceeds of sales of the different machines for the respective years.

The number of machines sold, as given in this schedule, were taken direct from Exhibit "D," Schedule of Implements Sold 1891 to 1903 (page 46), furnished the Master by Expert McVicker in the case of Dowagiac v. Brennan. The net sales price was taken from Schedule I.

As stated in the note on page 8, the total amount of the proceeds of sales for the years 1902–1903 does not include the amount received from the sale of 12–13-inch Steel Age at $42.50 and 1011 Sowers at $27.50, which were sold for export.

SCHEDULE II. Page 1. Proceeds of Shoe Drills (freight allowance and cash discounts not deducted.)

Size	1891-1892 Number of Machines	Net Sales Price	Amount	1892-1893 Number of Machines	Net Sales price	Amount	1893-1894 Number of machines	Net Sales price.	Amount
8-8									
10-7									
11-8	409	52.50	21,472.50	472	52.50	24,780.00	248	52.50	13,020.00
12-8									
13-5									
13-8	590	60.00	35,400.00	567	60.00	34,020.00	169	60.00	10,140.00
14-8									
15-5	710	67.50	47,925.00	687	67.50	46,372.50	134	67.50	9,045.00
15-8									
16-8									
17-8	947	75.00	71,025.00	1360	75.00	102,000.00	233	75.00	17,475.00
18-8									
20-5	686	90.00	61,740.00	576	90.00	51,840.00	173	90.00	15,570.00
20-8									
22	577	97.50	56,157.50	835	97.50	81,412.50	265	97.50	25,837.50
26	105	108.75	11,418.75	101	108.75	10,983.75	54	108.75	5,872.50
			$305,238.75			$351,408.75			$96,960.00

Size	1894-1895 Number of Machines	Net Sales Price	Amount	1895-1896 Number of Machines	Net Sales price	Amount	1896-1897 Number of machines	Net Sales price	Amount
8-8									
10-7									
11-8	178	52.50	9,345.00	165	52.50	8,662.50	183	48.75	8,921.25
12-8									
13-5				239	60.00	15,340.00	227	56.25	12,768.75
13-8	140	60.00	8,400.00	26	60.00	1,560.00			
14-8									
15-5	116	67.50	7,830.00	159	67.50	10,732.50	95	63.75	6,056.26
15-8				185	67.50	12,487.50	182	63.75	11,602.50
16-8									
17-8	227	75.00	17,025.00	856	75.00	64,200.00	795.	75.00	59,625.00
18-8									
20-5	154	90.00	13,860.00	357	90.00	32,130.00	171	86.25	14,748.75
20-8									
22	251	97.50	24,472.50	649	97.50	63,277.50	667	93.75	62,531.25
26	42	108.75	4,567.50	84	108.75	9,135.00	55	105.00	5,775.00
			$85,600.00			$217,525.20			$182,028.75

SCHEDULE II page 2.

Proceeds of Shoe Drills (freight allowance and cash discounts not deducted.)

Size	1897-1898 Number of Machines	Net Sales Price	Amount	1898-1899 Number of Machines	Net Sales Price	Amount	1899-1900 Number of Machines	Net Sales Price	Amount
8-8	6	42.00	252.00	3	42.00	126.00	14	42.00	588.00
10-7							61	45.00	2,745.00
11-6	338	48.75	16,477.50	225	48.75	10,968.75	78	48.75	3,802.50
12-6				44	52.50	2,310.00	161	52.50	8,452.50
13-5	544	56.25	30,600.00	434	56.25	24,412.50	175	56.25	9,843.75
13-6	247	56.25	13,893.75	363	56.25	20,418.75	204	56.25	11,475.00
14-6				113	60.00	6,780.00	146	60.00	8,760.00
15-5	303	63.75	19,316.25	251	63.75	16,001.25	168	63.75	10,710.00
15-6	459	63.75	29,161.25	238	63.75	15,172.50	110	63.75	7,012.50
16-6				463	71.25	32,988.75	529	71.25	37,691.25
17-6	1324	75.00	99,305.00	834	75.00	62,550.00	612	75.00	45,900.00
18-6				55	80.00	4,400.00	87	80.00	6,960.00
20-5	333	86.25	28,721.25	214	86.25	18,457.50	181	86.25	15,611.25
20-6				472	86.25	40,710.00	742	86.25	64,007.50
22	1223	93.75	114,656.25	1159	93.75	108,656.25	1213	93.75	113,718.75
26	90	105.00	9,450.00	81	105.00	8,505.00	45	105.00	4,725.00
			$361,833.25			$372,457.25			$351,903.00

Size	1900-1901 Number of Machines	Net Sales Price	Amount	1901-02 Number of Machines	Net Sales Price	Amount	1902-1903 Number of Machines	Net Sales Price	Amount
8-8	3	47.00	141.00	8	47.00	336.00	1	47.00	47.00
10-7	28	52.00	1,452.00	49	52.00	2,548.00	15	52.00	780.00
11-6	36	52.00	1,872.00	22	52.00	1,144.00	21	52.00	1,092.00
12-6	95	58.00	5,510.00	118	58.00	6,844.00	60	58.00	3,480.00
13-5	77	58.00	4,466.00	42	58.00	2,436.00	46	58.00	2,668.00
13-6	153	60.00	9,180.00	185	60.00	11,100.00	245	60.00	14,700.00
14-6	94	68.00	6,392.00	59	68.00	4,012.00	48	68.00	3,264.00
15-5	156	68.00	10,608.00	230	68.00	15,640.00	226	68.00	15,368.00
15-6	61	70.00	4,270.00	18	70.00	1,260.00	7	70.00	490.00
16-6	300	78.00	23,400.00	208	78.00	16,424.00	194	78.00	15,132.00
17-6	201	80.00	16,080.00	85	80.00	6,800.00	66	80.00	5,280.00
18-6	229	85.00	19,465.00	156	85.00	13,260.00	112	85.00	9,520.00
20-5	44	90.00	3,960.00	88	90.00	7,920.00	29	90.00	2,610.00
20-6	599	90.00	53,910.00	378	90.00	34,020.00	304	90.00	37,360.00
22	720	100.00	72,000.00	539	100.00	53,900.00	477	100.00	47,700.00
26	18	110.00	1,980.00	13	110.00	1,430.00	10	110.00	1,100.00
			$234,706.00			$179,074.00			$150,591.00

SCHEDULE II Page 3.

Proceeds of Single Disk Drills (freight allowance and cash discounts not deducted.)

Size	1897-1898 Number of Machines	Net Sales Price	Amount	1898-1899 Number of Machines	Net Sales Price	Amount	1899-1900 Number of Machines	Net Sales Price	Amount
6-8							12	38.00	456.00
8-8							129	43.50	5,611.50
9-7									
10-7				22	48.75	1,072.50	62	48.75	3,022.50
10-8				25	48.75	1,208.75	150	48.75	7,312.50
11-7	1	56.25	56.25	14	56.25	787.50	100	56.25	5,625.00
12-7									
12-8				3	60.00	180.00	56	60.00	3,360.00
14-6									
14-7									
14-8									
16-6				34	75.00	2,550.00	60	75.00	4,500.00
16-7				3	79.75	239.25			
16-8							7	79.75	558.25
17	18	79.75	1,435.50						
18-6									
18-7									
20-7									
22-6	30	93.75	2,812.50	32	93.75	3,000.00	61	93.75	5,718.75
			$4,304.25			$9,038.00	5	93.75	468.75
									$36,633.25

Size	1900-1901 Number of Machines	Net Sales Price	Amount	1901-1902 Number of Machines	Net Sales Price	Amount	1902-1903 Number of Machines	Net Sales Price	Amount
6-8	92	38.00	3,496.00	101	38.00	3,838.00	5	37.00	185.00
8-8	281	45.00	12,645.00	140	45.00	6,300.00	113	44.00	4,972.00
9-7				1	48.00	48.00	45	48.00	2,160.00
10-7	131	53.00	6,943.00	197	53.00	10,441.00	129	53.00	6,837.00
10-8	222	55.00	12,210.00	228	55.00	12,540.00	106	55.00	5,830.00
11-7							6	58.00	348.00
12-6	148	60.00	8,880.00	10	60.00	600.00	111	59.00	6,549.00
12-7				95	60.00	4,800.00	3	60.00	180.00
12-8	44	65.00	2,860.00	67	72.00	4,824.00	52	68.00	3,536.00
14-6				19	74.00	1,406.00	23	70.00	1,610.00
14-7				1	74.00	74.00			
14-8				3	74.00	222.00			
16-6	118	80.00	9,440.00	12	80.00	960.00			
16-7				51	82.00	4,182.00	75	80.00	6,000.00
16-8	7	90.00	630.00	2	88.00	176.00	1	82.00	82.00
17							1	88.00	88.00
18-6				1	90.00	90.00			
18-7				5	90.00	450.00	20	90.00	1,800.00
20-7	141	100.00	14,100.00	77	100.00	7,700.00			
22-6				3	105.00	315.00	120	100.00	12,000.00
			$71,204.00			$8,966.00	43	105.00	4,515.00
									$56,792.00

SCHEDULE II Page 4. Proceeds of Plain Hoe Drills (freight allowance and cash discounts not deducted.)

Size	1894-1895 Number of machines	Net Sales price	Amount	1895-1896 Number of machines	Net Sales price	Amount	1896-1897 Number of machines	Net Sales price	Amount	1897-1898 Number of machines	Net Sales price	Amount
5												
8-8	56	34.50	1,932.00	106	34.50	3,657.00	47	36.00	1,692.00	122	36.00	4,392.00
9-7												
10-7	46	40.50	1,863.00	10	40.50	405.00	40	40.50	1,620.00	74	40.50	2,997.00
10-8							10	41.25	412.50	51	41.25	2,103.75
11-7										2	42.75	85.50
12-6	21	45.00	945.00	10	45.00	450.00	20	45.00	900.00	47	45.00	2,115.00
12-7												
12-8							50	46.50	2,325.00	22	46.50	1,023.00
14-6										2	50.00	100.00
16-6										42	54.00	2,268.00
16-7												
16-8												
18-7												
20-7										3	60.00	180.00
			$4,740.00			$4,512.00			$6,949.50			$15,264.25

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Size	1898-1899 Number of machines	Net Sales price	Amount	1899-1900 Number of machines	Net Sales price	Amount	1900-1901 Number of machines	Net Sales price	Amount	1901-1902 Number of machines	Net Sales price	Amount	1902-1903 Number of machines	Net Sales price	Amount
5				28	14.00	392.00	126	14.00	1,764.00	25	14.00	350.00	33	14.00	462.00
8-8	25	36.00	900.00	6	36.00	216.00	65	40.00	2,600.00	34	37.00	1,258.00	52	37.00	1,924.00
9-7										1	40.00	40.00	7	40.00	280.00
10-7	49	40.50	1,984.50	22	40.50	891.000	41	43.00	1,763.00	26	45.00	1,170.00	18	45.00	810.00
10-8	22	41.25	907.50	20	41.25	825.00	3	44.00	132.00	15	46.00	690.00			
11-7	58	42.75	2,479.50	81	42.75	3,462.75	40	46.00	1,840.00	28	48.00	1,344.00	7	48.00	336.00
12-6	49	45.00	2,205.00	34	45.00	1,530.00	36	50.00	1,800.00	47	48.00	2,256.00	16	48.00	768.00
12-7	2	45.00	90.00										2	50.00	100.00
12-8	16	46.50	744.00	15	48.75	731.25	2	55.00	110.00	10	60.00	600.00	1	60.00	60.00
14-6							1	60.00	60.00				1	62.00	62.00
16-6	37	54.00	1,998.00	19	54.00	1,026.00	11	68.00	748.00	11	67.00	737.00	2	67.00	134.00
16-7										4	68.00	272.00			
16-8	20	50.25	1,125.00	3	56.25	168.75				26	75.00	1,950.00			
18-7	6	60.00	360.00							2	80.00	160.00			
20-7	8	63.75	570.00	8	63.75	570.00				8	85.00	680.00			
			$13,365.80			$9,812.75			$10,817.00			$11,507.00			$4,936.00

SCHEDULE II Page 5. Proceeds of Double Disc Drills (freight allowance and cash discounts not deducted.)

Size	1901-1902 Number of machines	Net Sales price	Amount	1902-1903 Number of machines	Net Sales price	Amount	1903-1904 Number of machines	Net Sales price	Amount
12-6	32	64.00	2,048.00	104	64.00	6,656.00			
14-6	18	75.00	1,350.00	67	75.00	5,325.00			
16-6	81	86.00	7,946.00	150	86.00	12,900.00			
17-6	1	90.00	90.00	2	90.00	180.00			
18-6	59	94.00	5,546.00	90	94.00	8,460.00			
20-6	155	100.00	15,500.00	239	100.00	23,900.00			
22-6	144	111.00	15,984.00	211	111.00	23,421.00			
			$48,464.00			$80,842.00			

Proceeds of Broadcast Seeders (freight allowance and cash discounts not deducted.)

Size	1894-1895 Number of machines	Net Sales Price	Amount	1895-1896 Number of machines	Net Sales price	Amount	1896-1897 Number of machines	Net Sales price	Amount	1897-1898 Number of machines	Net Sales price	Amount
12	22	31.50	693.00				45	31.50	141.75	181	31.50	5,701.50
14	38	36.00	1,368.00				16	36.00	576.00	41	36.00	1,476.00
16	9	40.50	364.50				29	40.50	1,174.50	19	40.50	769.50
20	3	52.50	157.50				11	52.50	577.50	6	52.50	315.00
24	4	60.00	240.00				4	60.00	240.00	7	60.00	420.00
			$2,823.00						$2,709.75			$8,682.00

Size	1898-1899 Number of machines	Net Sales price	Amount	1899-1900 Number of machines	Net Sales price	Amount	1900-1901 No. of machs.	Net Sales price	Amount	1901-1902 Number of machines	Net Sales price	Amount
12	210	31.50	6,615.00	202	36.00	7,272.00	197	40.00	7,880.00	241	35.00	8,435.00
14	23	36.00	828.00	18	39.00	702.00	4	45.00	180.00	33	38.00	1.254.00
16	16	40.50	648.00	2	46.50	93.00	6	55.00	330.00	4	55.00	220.00
20	12	52.50	630.00							11	65.00	715.00
24	1	60.00	60.00									
			$8,981.00			$8,067.00			$8,390.00			$10,624.00

Size	1902-1903 Number of machines	Net Sales price	Amount
12	108	33.00	3,564.00
14	25	36.00	900.00
16	5	55.00	275.00
20	1	65.00	65.00
			$4,804.00

SCHEDULE II Page 6. Proceeds of Michigan Drills (freight allowance and cash discounts not deducted.)

	1897-1898			1898-1899			1899-1900			1900-1901		
Size	Number of machines	Net Sales price	Amount	Number of machines	Net Sales price	Amount	Number of machines	Net Sales price	Amount	Number of machines	Net Sales price	Amount
12	52	35.00	1,820.00	68	35.00	2,380.00	74	37.50	2,775.00	29	37.50	1,087.50
16	244	47.50	11,790.00	297	47.50	14,107.50	184	50.00	9,200.00	121	50.00	6,050.00
20	198	60.00	11,880.00	235	60.00	14,100.00	175	62.50	10,937.50	137	62.50	8,562.50
			$25,490.00			$30,587.50			$22,912.50			$15,700.00

	1901-1902			1902-1903		
Size	Number of machines	Net Sales price	Amount	Number of machines	Net Sales price	Amount
12	17	37.50	637.50	35	37.50	1,302.50
16	47	50.00	2,350.00	59	50.00	2,950.00
20	56	62.50	2,250.00	27	62.50	1,687.50
			$5,237.50			$5,940.00

SCHEDULE II Page 7. Proceeds of Steel Age Drills (freight allowance and cash discounts not deducted.)

Size	1895-1896 Number of machines	Net Sales price	Amount	1896-1897 Number of machines	Net Sales price	Amount	1897-1898 Number of machines	Net Sales price	Amount	1898-1899 Number of machines	Net Sales price	Amount
8	36	20.00	720.00	72	20.00	1,440.00	268	20.00	5,360.00	82	20.00	1,640.00
10				65	25.00	1,625.00	119	25.00	2,975.00	76	25.00	1,900.00
13												
			720.00			3,064.00			8,335.00			3,540.00

Size	1899-1900 Number of machines	Net Sales price	Amount	1900-1901 Number of machines	Net Sales price	Amount	1901-1902 Number of machines	Net Sales price	Amount	1902-1903 Number of machines	Net Sales price	Amount
8	48	22.50	1,080.00	24	22.50	530.00	78	22.50	1,755.00	12	22.50	270.00
	58	27.50	1,595.00	64	27.50	1,760.40	75	27.50	2,062.50	29	27.50	797.50
			2,675.00			2,290.40			3,817.50			1,067.50

No machines 1903-1904

In 1902 and 1903 there were sold for export,

12 Steel Age, 13" @ $42.50 = $ 510.00
1011 Sowers 27.50 = 27,802.50

SCHEDULE No. II Page 8. Summary- Proceeds of Sales

Year	Shoe Drills	Single Disc	Double Disc	Michigan Drills	Bar Seeders	Hoe Drills	Steel Age	Total
1891-92	305,238.75							305,238.75
1892-93	351,408.75							351,408.75
1893-94	96,960.00							96,960.00
1894-95	85,500.00				2,823.00	4,740.00		93,063.00
1895-96	217,525.20					4,512.00	720.00	222,757.20
1896-97	182,028.75				2,709.75	6,949.50	3,065.00	194,753.70
1897-98	361,833.25	4,304.25		25,490.00	8,682.00	15,264.25	8,335.00	423,908.75
1898-99	372,457.25	9,038.00		30,587.50	8,981.00	13,363.50	3,540.00	437,967.25
1899-00	361,903.00	36,633.25		22,912.50	6,067.00	9,812.75	2,675.00	432,003.50
1900-01	234,706.00	71,204.00		15,700.00	8,390.00	10,817.00	2,290.40	343,107.40
1901-02	179,074.00	58,966.00	48,464.00	5,237.50	10,624.00	11,507.00	3,817.50	317,690.00
1902-03	150,591.00	56,792.00	80,842.00	5,940.00	4,804.00	4,936.00	1,067.50	304,972.50

The above total for 1902-03 does not include the amount received for the Steel Age and Sowers sold for export (see page 7)

SCHEDULE III.

In this schedule the total amount of sales was taken from the preceding Schedule II, page 8. The cash discounts and repairs free for the different years were taken from Exhibit, Schedule of General and Selling Expenses (page 49), as furnished by Expert McVicker. The item of Bad Debts was taken from the testimony given by Otto Schmalzried before Master Cowen at Dowagiac, on January 5, 1905, in the case of Dowagiac v. McSherry.

As stated in the note on page 1, the proceeds received from the sale of 12–13-inch Steel Age at $42.50 and 1011 Sowers at $27.50, amounting in all to $28,312.50, were not included in the total amount of sales for the year 1902–1903, when the coefficient for cash discounts was determined; they were, however, included when the coefficient for repairs free and the coefficient for bad debts were determined. This was on the ground that the machines sold for export were sold F. O. B. New York, and were not subject to cash discounts.

SCHEDULE III. Page 1 Tables showing Coefficients of Repairs Free, Cash Discounts Allowed, and Bad Debts.

Year	Total Amount of Sales	Cash Discount	Coefficient percentage per dollar	Year	Total Amount of Sales	Repairs Free	Coefficient percentage per dollar
1891-92	305,238.75	13,183.40	.04315	1891-2	305,238.75	2,298.88	.00753
1892-93	351,408.75	9,779.93	.02783	1892-3	351,408.75	2,375.81	.00673
1893-1894	96,960.00	6,376.45	.06576	1893-4	96,960.00	2,544.99	.02624
1894-95	93,063.00	7,416.00	.07968	1894-5	93,063.00	1,339.37	.01438
1895-96	222,757.20	6,430.70	.02887	1895-6	222,757.20	978.80	.00439
1896-97	194,753.70	5,770.25	.02966	1896-7	194,753.70	1,668.75	.00856
1897-98	423,908.75	7,352.32	.01734	1897-98	423,908.75	1,748.00	.00410
1898-99	437,967.25	5,989.32	.01367	1898-9	437,967.25	2,689.37	.00614
1899-1900	432,003.50	9,950.99	.02303	1899-00	432,003.50	2,550.81	.00590
1900-01	343,107.40	9,842.72	.02868	1900-01	343,107.40	1,745.91	.00508
1901-02	317,690.00	11,067.93	.03483	1901-02	317,690.00	1,614.65	.00508
1902-03	304,972.50 (see note)	8,647.38	.02835	1902-03	333,285.00(see note)	2,521.85	.00756

Note.- This amount for the year 1902-1903 includes the proceeds received for 12 - 13" Steel Age @ $42.50, and 1011 Sowers @ $27.50, which were not included in the amount for the year when the coeficient for Cash Discounts allowed was determined.

Total Amount Sales	Total Amount Bad Debts	Coefficient-percentage per dollar
3,552,143.30	40,772.18	.01147

SCHEDULE III Page 2. Tables showing coefficients of Repairs Free, Cash Discounts allowed and Bad Debts.

Year	Total Amount of Sales	Bad Debts	Coefficient Percentage per Dollar
1891-92	305,238.75	2,364.78	.00774
1892-93	351,408.75	10,650.80	.03030
1893-94	96,960.00	3,762.78	.03880
1894-95	93,068.00	4,977.45	.05348
1895-96	222,757.20	4,766.33	.02139
1896-97	194,753.70	3,415.13	.01754
1897-98	423,908.75	1,619.49	.00382
1898-99	437,967.25	1,719.22	.00409
1899-00	432,008.50	2,012.87	.00465
1900-01	343,107.40	3,386.01	.00986
1901-02	317,690.00	1,321.45	.00415
1902-03	333,285.00 (see note page 1.)	703.87	.00211

SCHEDULE IV.

This schedule shows the average total general and selling expense per machine during each year. The items contained in the first column under the head of "Accounts" down to and including "Implements Sold," with the exception of "Bad Debts," were taken from Exhibit, Schedule of General and Selling Expenses (page 49), furnished by Mr. McVicker, the item of Bad Debts being furnished by Schmalzried in his testimony on January 5, 1905 (see Profit and Loss Statement, page 52).

The item "Average Expense for each Machine" indicates what might be termed Overhead Expense per machine, and it was derived by dividing the "General and Selling Expense" by the number of implements sold. It does not, however, include all of the overhead expense, as several items were omitted by McVicker in his Schedule General and Selling Expense. These several items can be found in Complainant's Exhibit, "McVicker's Working Papers, 1891-92," on page 7.

The item "Average Total General and Selling Expense" represents the total average general and selling expense for each machine,—that is, the overhead expense per machine (subject to the preceding statement as to omissions) plus the expense due to cash discounts, repairs free and bad debts.

SCHEDULE IV. Page 1. Schedule showing average expense per machine.

Accounts	1891-2	1892-3	1893-4	1894-5	1895-6	1896-7	1897-8
Salaries of Officers & Clerks	12,900.00	14,904.00	8,891.28	2,468.46	4,291.19	8,399.34	8,691.67
General Traveling Expense		184.00	811.63	274.28	289.88	1,083.77	155.06
Postage			793.86	595.56	1,046.07	375.51	744.97
Printing & Stationery	2,081.87	2,117.80	205.80	785.61	693.49	656.11	918.97
Office Expense					94.75	40.79	
Territorial Salaries	5,198.00	9,027.75	8,734.04	9,436.79	10,492.12	10,447.71	12,950.79
Territorial Trav. Exp. & Collection Exp.	4,159.16	9,406.09	8,676.41	8,396.12	10,663.18	9,072.41	12,315.11
Rent			170.00	231.00	37.00	35.00	35.00
Advertising		1,617.80	1,268.33	2,149.43	3,383.09	1,650.22	4,968.28
General & Selling Exp.	24,339.03	37,257.42	28,671.35	24,337.25	31,010.77	31,762.86	40,779.85
Bad Debts	2,364.78	10,650.80	3,762.78	4,977.45	4,766.33	3,415.13	1,619.49
Repairs Free	2,298.88	2,365.81	2,544.99	1,339.37	978.80	1,668.75	1,748.00
Cash Discounts allowed	13,183.40	9,779.93	6,376.45	7,416.40	6,430.70	5,778.25	7,352.26
Implements Sold	4,024	4,598	1,776	1,207	2,882	2,824	6,416
Av. Expense for each machine	6.04845	8.10295	16.14378	20.16342	10.72545	11.24747	6.35596
Av. Loss by Bad Debts per machine	.58766	2.31639	2.11873	4.12381	1.65382	1.20932	.25241
Av. Repairs Free	.57129	.51453	1.43298	1.10966	.33962	.59091	.27244
Av. Cash Discount	3.27619	2.12699	3.59039	6.14449	2.22786	2.04612	1.14592
Av. Total Gen. & Selling Expense	10.48359	13.06086	23.28588	31.54138	14.94675	15.09382	8.02673
Sales of Machines (Increase		14%			139%		127%
(Decrease			61%	26%		2%	
Expense (Increase		53%			27%		29%
Decrease			23%	15.1%		2%	

SCHEDULE IV. page 2.

Accounts	1898-99	1899-1900	1900-01	1901-02	1902-03
Salaries of Officers & Clerks	11,162.52	9,808.68	10,382.72	10,281.42	10,724.29
General Traveling Exp.	450.02	292.83	402.23	422.77	426.06
Postage	1,306.02	1,498.92	1,856.26	1,183.66	1,578.44
Printing & Stationery	1,518.78	1,456.52	866.33	2,093.23 708.35	3.77
Office Expense	482.24	55.49	156.59 27.23	201.18 491.97	10.90 466.38
Territorial Salaries	12,524.62	16,216.38	16,736.84	16,550.71	13,469.12
Territorial Trav. Exp. & Collection Expense	12,723.72	11,136.51 2,186.37	14,445.14 4,564.23	15,950.47 3,699.67	16,893.87 2,402.89
Rent	205.00	413.60	368.76	149.48	50.00
Advertising	2,644.39	3.333.81	5,377.72	5,500.86	3,749.37
Gen. & Selling Exp.	43,017.31	46.391.11	55,204.04	57,183.27	49,475.09
Bad Debts	1,719.22	2,012.87	3,366.01	1,321.45	703.87
Repairs Free	2,689.37	2,550.81	1,745.91	1,814.65	2,521.88
Cash Discounts allowed	5,989.32	9,950.99	9,842.72	11,027.93	8,847.36
Implements Sold	6,394	6,164	4,903	4,500	4,026
Av. Expense for each machine	6.72776	7.52613	11.25925	12.7039	12.28889
Av. Loss by Bad Debts	.28014	.32655	.69059	.29365	.17483
Av. Repairs Free	.42060	.41366	.35609	.35881	.62639
Av. Cash Discount	.93670	1.61435	2.00748	2.45954	2.14787
Av. Total Gen. & Selling Expense	8.36520	9.86069	14.31341	15.81390	15.23798
Sales of Machines (Increase		4%	20%	8%	11%
(Decrease	3/10%				
Expense (Increase	5%	8%	19%	4%	
(Decrease					13%

SCHEDULE V.

This schedule is analogous to the preceding Schedule IV. It represents the general and selling expense prorated per the value instead of per machine.

The first item "General and Selling Expense," which has been termed Overhead Expense, was taken from the preceding schedule. The item "Total Value of Implements Sold" was taken from Schedule II; the item "Coefficient Expense" was derived by dividing the value of machines sold into the overhead expense for each and every year. As stated in the Explanatory Note to Schedule IV, the overhead expense is subject to the same omissions.

The items "Coefficient Cash Discounts," "Coefficient Repairs Free" and "Coefficient Bad Debts" were taken from Schedule III.

The item "Coefficient Total General and Selling Expense" is the sum total of the four preceding coefficients.

SCHEDULE V.

Schedule showing Coefficients- percentage per dollar.

	1891-92	1892-1893	1893-1894	1894-1895	1895-1896	1896-1897	1897-1898
Gen. & Selling Exp.	24,339.03	37,257.42	25,671.35	24,337.25	31,010.77	31,762.86	40,779.85
Total Value of Implements Sold	305,238.75	351,408.75	96,900.00	93,063.00	222,757.20	194,753.70	423,908.75
Coefficient Expense	.07973	.10602	.29466	.26151	.13921	.16309	.09619
Coeff. Cash Discounts	.04315	.02783	.06576	.07968	.02887	.02966	.01734
Coeff. Repairs Free	.00753	.00673	.02624	.01438	.00439	.00856	.00410
Coeff. Bad Debts	.00774	.03030	.03880	.05348	.02139	.01754	.00382
Coeff. Total General & Selling Expense	.13815	.17088	.42546	.40905	.19386	.21885	.12145
Sales (Increase Amt. (Decrease Recd.		18%	72.4%	11.8%	154.4%	16.3%	117.6%

	1898-1899	1899-1900	1900-1901	1901-1902	1902-03
Gen. & Selling Exp.	43,017.51	46,391.11	55,204.04	57,183.27	49,475.09
Total Value of Implements Sold	437,967.25	432,003.50	343,107.40	317,690.00	333,285.00
Coefficient Expence	.09972	.10738	.16089	.17999	.14844
Coeff. Cash Discounts	.01367	.02303	.02868	.03483	.02835
Coeff. Repairs Free	.00614	.00590	.00508	.00508	.00756
Coeff. Bad Debts	.00409	.00465	.00986	.00415	.00211
Coeff. Total General & Selling Expense	.12362	.14096	.20451	.22405	.18646
Sales (Increase Amt. (Decrease Recd.	8.3%	1.3%	20.5%	7.4%	4.0%

SCHEDULE VI.

Schedule VI gives the average general and selling expense for the different machines for each year, the said general and selling expense being prorated according to three different methods, designated respectively, "Average Expense per Machine," "Average Expense per Value of Machine," and "Average Expense Properly Distributed."

Considering the schedule in detail, pages 1 and 2 give the average general and selling expense for each year of the Shoe Drills; pages 3 and 4, of the Hoe Drills; and on page 4 is found the average general and selling expense of the Michigan Drills.

The column headed "Size," on page 1, gives the size of the different Shoe Drills. The column headed "Average Expense per Machine" indicates the total general and selling expense prorated per machine, and is taken from Schedule IV. The column headed "Average Expense per Value of Machine" indicates the total general and selling expense prorated per value, and the various items are derived as follows: The net sales price of each machine for the different years, as given in Schedule I, is multiplied by the coefficient of total general and selling expense for that year, as given in Schedule V. This gives the average expense per value of machine.

The third column headed "Average Expense Properly Distributed" represents a distribution of expense that seems to be more equitable than either of the two preceding methods. It is a combination of the other two methods, the expense being prorated per machine and per value. Each item is derived as follows: The overhead expense, as given in Schedule 4 (shown therein as item "Average Expense per Machine"), is prorated per machine. The cash discounts, repairs free, and bad debts are prorated per value,—that is, each respective coefficient therefor, as given in Schedule III, is multiplied by the value of each machine for that year, and the results added to the overhead expense prorated per machine.

The foregoing remarks apply also to the other pages of this schedule, the items therein being determined by the above methods.

SCHEDULE VI. page 1. Shoe Drills (Average General and Selling Expense)

Size	1891-92 Average Expense per machine	1891-92 Average Expense per value of machine Coeff.=13815	1891-92 Average Expense properly distributed	1892-93 Average Expense per machine	1892-93 Average Expense per value of machine Coeff.=.17088	1892-93 Average Expense properly distributed	1893-94 Average Expense per machine	1893-94 Average Expense per value of machine Coeff. =.42546	1893-94 Average Expense properly distributed
8-8									
10-7									
11-6	10.48359	7.25287	9.11550	13.06086	8.97120	11.50810	23.28588	25.52760	23.99178
12-6									
13-5									
13-6	10.48359	8.28900	9.55365	13.06086	10.25280	11.99455	23.28588	25.52760	23.99178
14-6									
15-5	10.48359	9.32514	9.99180	13.06086	11.53440	12.48100	23.28588	28.71855	24.97278
15-6									
16-6									
17-6	10.48359	10.36145	10.42995	13.06086	12.81600	12.96745	23.28588	31.90950	25.95378
18-6									
20-5	10.48359	12.43350	11.30625	13.06086	15.37920	13.94035	23.28588	38.29140	27.91578
20-6									
22	10.48359	13.46964	11.74440	13.06086	16.66080	14.42680	23.28588	41.49235	28.89678
26	10.48359	15.02381	12.40162	13.06086	18.58320	15.15647	23.28588	46.26877	30.36828

Size	1894-95 Average Expense per machine	1894-95 Average Expense per value of machine Coeff.=.40905	1894-95 Average Expense properly distributed	1895-96 Average Expense per machine	1895-96 Average Expense per value of machine Coeff.=.19386	1895-96 Average Expense properly distributed	1896-97 Average Expense per machine	1896-97 Average Expense per value of machine Coeff.=.21885	1896-97 Average Expense properly distributed
8-8	31.54138	16.32544	26.77321	14.94675	8.68492	13.17377	15.09382	9.19170	13.58939
10-7	31.54138	19.63440	27.24534	14.94675	9.30528	13.34865	15.09382	9.84825	13.75687
11-6	31.54138	21.47512	27.90927	14.94675	10.17765	13.59457	15.09382	10.66893	13.98577
12-6	31.54138	22.90680	28.42566	14.94675	10.85616	13.78585	15.09382	10.66893	13.98577
13-5				14.94675	11.63160	14.00445	15.09382	12.31031	14.38397
13-6	31.54138	24.54300	29.01582	14.94675	11.63160	14.00445	15.09382	12.31031	14.38397
14-6				14.94675	12.35857	14.20938	15.09382	13.13100	14.59307
15-5	31.54138	27.61087	30.12237	14.94675	13.08555	14.41432	15.09382	13.95168	14.80217
15-6				14.94675	13.08555	14.41432	15.09382	13.95168	14.80217
16-6				14.94675	13.81252	14.61926	15.09382	15.59306	15.22037
17-6	31.54138	30.67875	31.22892	14.94675	14.53950	14.82420	15.09382	16.41375	15.42947
18-6				14.94675	15.50880	15.09745	15.09382	17.50800	15.70827
20-5	31.54138	36.81450	33.44202	14.94675	17.44740	15.64395	15.09382	18.87581	16.05677
20-6									
22	31.54138	39.88237	34.54857	14.94675	18.90135	16.05382	15.09382	20.51718	16.47497
26	31.54138	44.48418	36.21039	14.94675	21.08227	16.66863	15.09382	22.97925	17.10227
8-7	31.54138	18.97992	27.00927				15.09382	9.51997	13.87303

SCHEDULE VI. Page 2. Shoe Drills (Average General and Selling Expense)

Size	1897-98 Average Expense per machine	1897-98 Average Expense per value of machine Coeff.=.12145	1897-98 Average Expense properly distributed	1898-99 Average Expense per machine	1898-99 Average Expense per value of machine Coeff.=.12362	1898-99 Average Expense properly distributed	1899-1900 Average Expense per machine	1899-1900 Average Expense per value of machine Coeff.=.14096	1899-1900 Average Expense properly distributed
8-8	8.02673	5.10090	7.41888	8.36520	5.19204	7.73156	9.88069	5.92032	8.93649
10-7	8.02673	5.46525	7.49268	8.36520	5.56290	7.80326	9.88069	6.34320	9.03673
11-6	8.02673	5.92068	7.56238	8.36520	6.02647	7.89288	9.88069	6.87180	9.16315
12-6	8.02673	6.37612	7.68211	8.36520	6.49005	7.98251	9.88069	7.40040	9.28403
13-5	8.02673	6.83156	7.77683	8.36520	6.95362	8.07213	9.88069	7.92900	9.41000
13-6	8.02673	6.83156	7.77683	8.36520	6.95362	8.07213	9.88069	7.92900	9.41000
14-6	8.02673	7.28700	7.87156	8.36520	7.41720	8.16176	9.88069	8.45760	9.54093
15-5	8.02673	7.74243	7.96628	8.36520	7.88077	8.25138	9.88069	8.98620	9.66685
15-6	8.02673	7.74243	7.96628	8.36520	7.88077	8.25138	9.88069	8.98620	9.66685
16-6	8.02673	8.65331	8.15573	8.36520	8.80792	8.43063	9.88069	10.04340	9.91870
17-6	8.02673	9.10875	8.25046	8.36520	9.27150	8.52026	9.88069	10.57200	10.04413
18-6	8.02673	9.71600	8.37876	8.36520	9.88960	8.63976	9.88069	11.27680	10.21263
20-5	8.02673	10.47506	8.53463	8.36520	10.66222	8.78913	9.88069	12.15780	10.42240
20-6				8.36520	10.66222	8.78913	9.88069	12.15780	10.42240
22	8.02673	11.38593	8.73408	8.36520	11.58937	8.96838	9.88069	13.21500	10.67425
26	8.02673	12.75225	9.00826	8.36520	12.98010	9.23726	9.88069	14.80080	11.05153
9-7	8.02673	5.28307	7.45377						

Size	1900-01 Average Expense per machine	1900-01 Average Expense per value of machine Coeff.=.20451	1900-01 Average Expense properly distributed	1901-02 Average Expense per machine	1901-02 Average Expense per value of machine Coeff.=.22405	1901-02 Average Expense properly distributed	1902-03 Average Expense per machine	1902-03 Average Expense per value of machine Coeff.=.18646	1902-03 Average Expense properly distributed
8-8	14.31341	9.61197	13.30939	15.81590	10.53035	14.77472	15.23798	8.76362	14.07583
10-7	14.31341	10.63452	13.52749	15.81590	11.65060	14.99502	15.23798	9.69592	14.26593
11-6	14.31341	10.63452	13.52749	15.81590	11.65060	14.99502	15.23798	9.69592	14.26593
12-6	14.31341	11.86158	13.78921	15.81590	12.99490	15.25938	15.23798	10.81468	14.49405
13-5	14.31341	11.86158	13.78921	15.81590	12.99490	15.25938	15.23798	10.81468	14.49405
13-6	14.31341	12.27060	13.87645	15.81590	13.44300	15.34750	15.23798	11.18760	14.57009
14-6	14.31341	13.90668	14.22541	15.81590	15.23540	15.69998	15.23798	12.67928	14.87425
15-5	14.31341	13.90668	14.22541	15.81590	15.23540	15.69998	15.23798	12.67928	14.87425
15-6	14.31341	14.31570	14.31265	15.81590	15.68360	15.78810	15.23798	13.05220	14.95029
16-6	14.31341	15.95178	14.66161	15.81590	17.47590	16.14058	15.23798	14.54388	15.25445
17-6	14.31341	16.36080	14.74885	15.81590	17.92400	16.22870	15.23798	14.91680	15.33049
18-6	14.31341	17.36336	14.96695	15.81590	19.04425	16.44900	15.23798	15.84910	15.52059
20-5	14.31341	18.40590	15.18505	15.81590	20.16450	16.66930	15.23798	16.78140	15.71069
20-6	14.31341	18.40590	15.18505	15.81590	20.16450	16.66930	15.23798	16.78140	15.71069
22	14.31341	20.45100	15.62125	15.81590	22.40500	17.10990	15.23798	18.64600	16.09089
26	14.31341	22.49610	16.05745	15.81590	24.64550	17.55050	15.23798	20.51060	16.47109

SCHEDULE VI Page 3.

Plain Hoe Drills (Average General and Selling Expense)

Size	1894-95 Average Expense per machine	1894-95 Average Expense per value of machine coeff.=.40905	1894-95 Average Expense properly distributed	1895-96 Average Expense per machine	1895-96 Average Expense per value of machine Coeff.=.19386	1895-96 Average Expense properly distributed	1896-97 Average Expense per machine	1896-97 Average Expense per value of machine Coeff.=.21885	1896-97 Average Expense properly distributed
5									
8-8	31.54136	14.11222	25.25355	14.94675	6.68817	12.61087	15.09382	7.87860	13.25483
9-7									
10-7	31.54128	16.36200	26.06502	14.94675	7.75440	12.91145	15.09382	8.86342	13.50575
10-8							15.09382	9.02756	13.54757
11-7									
12-6	31.54138	18.40725	26.80272	14.94675	8.72370	13.18470	15.09382	9.84825	13.75667
12-7									
12-8							15.09382	10.17652	13.84031
14-6									
16-6									
16-7									
16-8									
18-7									
20-7									

Size	1897-98 Average Expense per machine	1897-98 Average Expense per value of machine Coeff.=.12145	1897-98 Average Expense properly distributed	1898-99 Average Expense per machine	1898-99 Average Expense per value of machine Coeff.=.12362	1898-99 Average Expense properly distributed	1899-1900 Average Expense per machine	1899-1900 Average Expense per value of machine Coeff.=.14096	1899-1900 Average Expense properly distributed
5									
8-8	8.02673	4.37220	7.26532	8.36520	4.45032	7.58816	9.88069	1.97344	7.99625
9-7							9.88069	5.27456	8.73501
10-7	8.02673	4.91872	7.37899	8.36520	5.00861	7.69571			
10-8	8.02673	5.00981	7.39795	8.36520	5.09932	7.71363	9.88069	5.70888	8.88612
11-7	8.02673	5.19198	7.43582	8.36520	5.28476	7.74948	9.88069	5.81460	8.91130
12-6	8.02673	5.46525	7.49266	8.36520	5.56290	7.80326	9.88069	6.02604	8.96167
12-7				8.36520	5.56290	7.80326		6.34320	9.05723
12-8	8.02673	5.64742	7.53055	8.36520	5.74833	7.83911	9.88069	6.87179	9.16315
14-6	8.02673	6.07250	7.61896						
16-6	8.02673	6.55830	7.72000	8.36520	6.67548	8.01836	9.88069	7.61184	9.33945
16-7				8.36520	6.95362	8.07213			
16-8				8.36520	7.41720	8.16176	9.88069	7.92900	9.41500
18-7	8.02673	7.28700	7.87156	8.36520	7.88078	8.25138			
20-7							9.88069	8.98520	9.6667

SCHEDULE VI Page 4. Plain Hoe Drills (Average General and Selling Expense)

Size	1900-01 Average Expense per machine	1900-01 Average Expense per value of machine Coeff.=.20451	1900-01 Average Expense properly distributed	1901-02 Average Expense per machine	1901-02 Average Expense per value of machine Coeff.=.22405	1901-02 Average Expense properly distributed	1902-03 Average Expense per machine	1902-03 Average Expense per value of machine Coeff.=.18046	1902-03 Average Expense properly distributed
5	14.31341	2.66314	11.86993	15.81590	3.13670	13.32074	15.23798	2.61044	12.82117
8-8	14.31341	8.16040	13.00405	15.81590	8.28985	14.33412	15.23798	6.89902	13.69563
9-7				15.81590	8.96200	14.46630	15.23798	7.45840	13.80969
10-7	14.31341	8.79393	13.13491	15.81590	10.08225	14.88660	15.23798	8.39070	13.99979
10-8	14.31341	8.99844	13.17853	15.81590	10.30630	14.73066			
11-7	14.31341	9.40746	13.26577	15.81590	10.75440	14.81878	15.23798	8.95008	14.04613
12-6	14.31341	10.22550	13.44025	15.81590	10.75440	14.81878	1515.23798	8.95008	14.04613
12-7							15.23798	9.32300	14.72217
12-8	14.31341	1.124805	13.65835	15.81590	13.44300	15.34750	15.23798	11.16760	15.10237
14-6	14.31341	12.27060	13.87645				15.23798	11.56052	15.17841
16-6	14.31341	13.90668	14.22541	15.81590	15.01135	15.66592	15.23798	12.49282	15.36851
16-7				15.81590	15.23540	15.69998			
16-8				15.81590	16.80375	16.00640			
18-7				15.81590	17.92400	16.22870			
20-7				15.81590	19.04425	16.44900			

Michigan Drills (Average General and Selling Expense)

Size	1897-98 Average Expense per machine	1897-98 Average Expense per value of machine Coeff.=.12145	1897-98 Average Expense properly distributed	1898-99 Average Expense per machine	1898-99 Average Expense per value of machine Coeff.=.12362	1898-99 Average Expense properly distributed	1899-1900 Average Expense per machine	1899-1900 Average Expense per value of machine Coeff.=.11096	1899-1900 Average Expense properly distributed
12	8.02673	4.25075	7.24006	8.36520	4.32670	7.66426	9.88069	5.28600	8.78538
16	8.02673	5.76887	7.55561	8.36520	5.67195	7.86301	9.88069	7.04800	9.20513
20	8.02673	7.28700	7.87156	8.36520	7.01720	8.16176	9.88069	8.81000	9.62488

Size	1900-01 Average Expense per machine	1900-01 Average Expense per value of machine Coeff.=.20451	1900-01 Average Expense properly distributed	1901-02 Average Expense per machine	1901-02 Average Expense per value of machine Coeff.=.22405	1901-02 Average Expense properly distributed	1902-03 Average Expense per machine	1902-03 Average Expense per value of machine Coeff.=.18046	1902-03 Average Expense properly distributed
12	14.31341	7.86912	12.89500	15.81590	8.40187	14.33615	15.23798	6.99225	13.71464
16	14.31341	10.22550	13.44025	15.81590	11.20250	14.90690	15.23798	9.32300	14.18989
20	14.31341	12.78187	13.98550	15.81590	14.00312	15.45765	15.23798	11.65375	14.66514

SCHEDULE VII.

This schedule represents the proportionate cost of various sizes of Shoe Drills that were omitted from McVicker's Schedule, Exhibit 2.

The cost, both of material and labor, was determined proportionately, the figures for the other sizes, as given in McVicker's Schedule, Exhibit 2, being used as a basis.

SCHEDULE VII. Page 1. Proportionate cost of various sizes of shoe drills (omitted from McVicker's Schedule, Exhibit 2.)

1891-1892

	8	9	10	12	14	16	18	24 *
Material	17.10926	18.33351	19.55776	22.05584	25.21592	29.15320	31.84789	41.01796
Labor	10.25792	10.92753	11.59741	12.94928	14.74591	17.10611	18.58675	23.68777
Total	27.36718	29.26104	31.15517	35.00512	39.96183	46.25931	50.43464	64.70573

1892-1893

	8	9	10	12	14	16	18	24 *
Material	16.93643	18.14724	19.35908	21.81850	24.93263	28.84236	31.46328	40.49601
Labor	10.25792	10.92753	11.59741	12.94928	14.74591	17.10611	18.58675	23.68777
Total	27.19335	29.07477	30.95649	34.76778	39.67854	45.94847	50.05003	64.18378

1893-1894

	8	9	10	12	14	16	18	24 *
Material	17.70432	18.97115	20.23806	22.82988	26.09495	30.15790	32.93567	42.45754
Labor	10.25792	10.92753	11.59741	12.94928	14.74591	17.10611	18.58675	23.68777
Total	27.96224	29.89868	31.83547	35.77916	40.84086	47.26401	51.52242	66.14531

* Estimated

SCHEDULE VII. page 2 Proportionate cost of various sizes of shoe drills (omitted from McVicker's schedule Exhibit 2.)

1894-1895

	8	9	10	12	14	16	18	24*
Material	15.13464	16.21760	17.30056	19.46648	22.20033	25.64033	27.93866	35.84597
Labor	10.39535	11.07393	11.75251	13.10967	15.08636	17.45156	18.83967	23.84795
Total	25.52999	27.29153	29.05307	32.57615	37.28669	43.09189	46.77817	59.69392

1895-1896

	8	9	10	12	14	16	18	24 *
Material	15.29697	16.40974	17.52251	19.74805	22.76824	26.25686	28.48157	36.45792
Labor	10.39535	11.07393	11.75251	13.10967	15.08636	17.45156	18.83967	23.84795
Total	25.69232	27.48387	29.27502	32.85772	37.85460	43.70842	47.32124	60.30587

1896-1897

	8	9	10	12	14	16	18	24 *
Material	14.44899	15.49088	16.53277	18.61655	21.44833	24.73277	26.81240	34.30795
Labor	10.39535	11.07393	11.75251	13.10967	15.08636	17.45156	18.83967	23.84805
Total	24.84434	26.56481	28.28528	31.72622	36.53469	42.18433	45.65207	58.15600

1897-1898

	8	9	10	12	14	16	18	24 *
Material	12.54418	13.41933	14.29450	16.04484	18.49649	21.36362	23.10403	29.46076
Labor	10.39535	11.07393	11.75251	13.10967	15.08636	17.45156	18.83967	23.84805
Total	22.93951	24.49326	26.04701	29.15451	33.58285	38.81518	41.94370	53.30881

1898-1899

	8	9	10	12	14	16	18	20
Material	13.47650	14.19742	14.91834	16.36018	19.21509	21.98718	23.79236	30.34984
Labor	10.39535	11.07393	11.75251	13.10967	15.08636	17.45156	18.83967	23.84805
Total	23.87185	25.27135	26.67085	29.46985	34.30145	39.43874	42.63203	54.19789

* Estimated.

SCHEDULE VII. Page 3. Proportionate Cost of Various Sizes of Shoe Drills (Omitted from McVicker's Schedule Exhibit 2.)

	1899-1900				1900-1901			
	9	11	17	24 *	9	11	17	24 *
Material	19.95234	22.06679	33.00919	44.83869	17.61783	19.48321	29.06134	37.80666
Labor	11.76434	12.85129	19.07544	24.46887	11.75434	12.85129	19.07544	24.46887
Total	31.71668	34.91808	52.08463	69.30776	29.37217	32.33460	48.13678	62.27553

	1901-1902				1902-1903			
	9	11	17	24 *	9	11	17	24 *
Material	18.08310	19.92702	29.68437	38.94883	20.73136	22.85585	34.04817	44.10470
Labor	11.75434	12.85129	19.07544	24.46887	11.75434	12.85129	19.07544	24.46887
Total	29.83744	32.77831	48.75981	63.41770	32.48570	35.70714	53.12361	68.57357

* Estimated

SCHEDULE VIII. Page 1. Profit on Shoe Drills. (Expense pro rated per machine) Schedule shows the Net Profit after pro rating the General and Selling Expense per machine.

Size	1891-92 Net Sales Price	1891-92 Cost and Expense (per machine)	1891-92 Net Profit	1892-93 Net Sales Price	1892-93 Cost and Expense (per machine)	1892-93 Net Profit	1893-94 Net Sales Price	1893-94 Cost and Expense (per machine)	1893-94 Net Profit
8-8									
10-7									
11-8	52.50	43.53639	8.96361	52.50	45.90248	6.59752	52.50	57.06154	4.56154(-)
12-8									
13-5							60.00	61.06852	1.06852(-)
13-6	60.00	47.44101	12.55899	60.00	49.75478	10.24522			
14-6									
15-5	62.38160	53.44983	8.93177	62.38160	55.72401	6.65759	62.38160	67.18496	4.80336(-)
15-6									
16-6									
17-6	68.96320	60.04595	8.91725	68.96320	62.30463	6.63857	68.96320	73.92480	4.96160(-)
18-6									
20-5	83.57680	65.09355	18.46325	83.57680	67.21243	16.36437	83.57680	79.06670	4.51010
20-6									
22	90.20320	72.18754	18.01566	90.20320	74.32421	15.87899	90.20320	86.35430	3.84890
26	100.87080	78.19089	22.67991	100.87080	80.16486	20.70594	100.87080	92.50786	8.36294

Size	1894-95 Net Sales Price	1894-95 Cost and Expense (per machine)	1894-95 Net Profit	1895-96 Net Sales Price	1895-96 Cost and Expense (per machine)	1895-96 Net Profit	1896-97 Net Sales Price	1896-97 Cost and Expense (per machine)	1896-97 Net Profit
8-8	44.80 *	57.09139	12.29139(-)	44.80 *	40.63907	4.16093	42.00	39.93816	2.06184
10-7	48.00 *	60.59445	12.59445(-)	48.00 *	44.22177	3.77823	45.00	43.37910	1.62090
11-8	52.50	62.35599	9.85599(-)	52.50	46.01312	6.48688	48.75	45.09957	3.65043
12-8	56.00 *	64.11753	8.11753(-)	56.00 *	47.80447	8.19553	52.50	46.82004	5.67996
13-5	60.00	65.87906	5.87906(-)	60.00	48.69530	11.10470	56.25	47.85138	8.39862
13-6	60.00	65.87906	5.87906(-)	60.00	49.59580	10.40420	56.25	48.54051	7.70949
14-6				61.12515	52.80135	8.32380	54.84240	51.62851	3.21389
15-5	62.38160	71.41696	9.03536(-)	62.38160	55.18153	7.20007	58.63160	53.90430	4.72730
15-6				62.25280	56.00689	6.24591	58.50280	54.71650	3.78630
16-6	65.43160	74=45321	9.02161(-)	65.43160	58.65517	6.77643	65.43160	57.27815	8.15345
17-6	68.96320	77.48945	8.52626(-)	68.96320	61.30343	7.65977	68.96320	59.83978	9.12342
18-6				73.73920	62.26799	11.47121	73.73920	60.74589	12.99331
20-5	79.82680	82.00594	2.17914(-)	79.82680	65.88079	13.94601	79.82680	64.21362	15.61318
20-6									
22	90.20320	88.55502	1.64818	90.20320	72.52247	17.68073	90.20320	70.64728	19.55592
26	100.87080	93.91578	6.95502	100.87080	77.98296	22.88784	97.12080	75.84936	21.27144
9-7	46.40 *	58.74292	12.34292(-)	46.40 *	42.43042	3.96958	43.50 *	41.65863	1.84137

* Estimated.

SCHEDULE VIII. page 2. Profit on Shoe Drills (Expense pro rated per machine)

Size	1897-98 Net Sales Price	Cost and Expense (per machine)	Net Profit	1898-99 Net Sales Price	Cost and Expense (per machine)	Net Profit	1899-1900 Net Sales Price	Cost and Expense (per machine)	Net Profit
8-8	42.00	30.98624	11.03376	42.00	32.70181	9.29819	42.00	39.93671	2.06329
10-7	45.00	34.07374	10.92626	45.00	35.19097	9.80903	45.00	43.27525	1.72475
11-6	48.75	35.62749	13.12251	48.75	34.43555	14.31445	48.75	44.79877	3.95123
12-6	52.50	37.18124	15.31876	52.50	37.68015	14.81985	52.50	46.32229	6.17771
13-6	56.25	38.07049	18.17951	56.25	38.92469	17.32531	56.25	48.38188	7.86812
13-6	56.25	38.73498	17.51502	56.25	39.59108	16.65892	56.25	48.38188	7.86812
14-6	54.84240	41.60958	13.23282	57.37515	41.60467	15.77028	57.37515	54.12219	3.25297
15-5	58.63160	43.70100	17.51502	58.63160	44.62716	14.00444	61.01970	56.09631	4.92339
15-6	58.50280	44.48418	14.01862	58.50280	45.41369	13.08911	61.07955	56.09631	4.92339
16-6	65.43160	46.84191	18.58969	68.28885	47.80394	20.48490	68.28885	59.88388	8.40497
17-6	68.96320	49.14462	19.81858	68.96320	50.19418	18.76902	72.92760	61.77193	11.15567
18-6	73.73920	49.97043	23.76877	76.81370	50.99723	25.81647	80.81370	64.04673	16.76697
20-5	79.82680	53.09894	26.72786	79.82680	54.17051	25.65629	82.89270	67.33042	15.56228
20-6							82.74450	69.65414	13.09036
22	90.20320	59.03617	31.16703	90.20320	60.21893	29.98427	89.90370	74.16429	15.82941
26	97.12080	63.63491	33.48589	97.12080	64.90725	32.21355	100.93675	80.21259	20.72416
9-7	43.50 x	32.51999	10.98001				43.50	41.59737	1.90263

x Estimated

Size	1900-01 Net Sales Price	Cost and Expense (per machine)	Net Profit	1901-02 Net Sales Price	Cost and Expense (per machine)	Net Profit	1902-03 Net Sales Price	Cost and Expense (per machine)	Net Profit
8-8	47.00	42.13173	4.86827	47.00	44.11022	2.88978	47.00	46.03305	.96695
10-7	52.00	45.23942	6.76058	52.00	47.19644	4.80356	52.00	49.41430	2.58570
11-6	52.00			52.00			52.00		
12-6	58.00	48.05639	9.94361	58.00	47.99198	10.00802	58.00	52.47593	5.52407
13-5	58.00	49.92342	8.07658	58.00	51.88423	6.11577	58.00	54.54116	3.45884
13-6	60.00	49.92342	10.07658	60.00	51.88423	8.11577	60.00	54.54116	5.45884
14-6	65.37515	55.23253	10.14262	65.37515	57.26267	8.11248	65.37515	60.38635	4.98880
15-5	65.26970	57.06112	8.20858	65.26970	59.09381	6.17589	65.26970	62.39232	2.87738
15-6	67.32955	57.06112	10.26843	67.32955	59.09381	8.23574	67.32955	62.39232	4.93723
16-6	75.03885	60.61322	14.42563	75.03885	62.65286	12.38600	75.03885	66.26180	8.77705
17-6	76.92770			76.92770			76.92770		
18-6	81.81370	64.35715	17.45655	81.81370	66.49855	15.31515	81.81370	70.46187	11.35233
20-5	86.64270	67.44157	19.20113	86.64270	69.51961	17.12309	86.64270	73.75369	12.88901
20-6	86.49450	69.63944	16.85506	86.49450	71.78088	14.71362	86.49450	76.21859	10.27591
22	96.24370	73.79474	22.44896	96.24370	75.96082	20.28288	96.24370	80.77500	15.46870
26	105.93875	79.38312	26.55563	105.93875	81.50637	24.43238	105.93875	86.84609	19.09066
24	101.09123x	76.86894	24.80229						

* Estimated

SCHEDULE IX.

In this schedule the general and selling expense of each machine was prorated per value.

To the cost of material and labor, expense and supplies, for each size of machine as given by McVicker in Exhibit 2, "Proportionate Cost of Various Sizes of Shoe Drills," was added the respective total general and selling expense prorated per value of machine, as given in column headed "Average Expense per Value of Machine" in Schedule VI. This difference between the total cost and expense of each machine from its respective net sales price is the net profit or loss, the latter being indicated by (-).

SCHEDULE IX. page 1. Profit on Shoe Drills (Expense pro rated per value) Schedule shows the Net Profit when the General and Selling Expense has been pro rated per value.

Size	1891-92 Net Sales Price	Cost and Expense (per value)	Net Profit	1892-93 Net Sales Price	Cost and Expense (per value)	Net Profit	1893-94 Net Sales Price	Cost and Expense (per value)	Net Profit
8-8									
10-7									
11-6	52.50	40.30567	12.19433	52.50	41.81282	10.68718	52.50	56.11231	3.61231(-)
12-6									
13-5									
13-6	60.00	45.24642	4.75358	60.00	46.94672	13.05328	60.00	63.31024	3.31024(-)
14-6									
15-5	62.36160	52.29138	10.00022	62.36160	54.19755	8.18405	62.36160	72.61763	10.23603(-)
15-6									
16-6									
17-6	68.96320	59.92381	9.03939	68.96320	62.05977	6.90343	68.96320	82.54842	13.58522(-)
18-6									
20-5	83.57680	67.04346	16.53334	83.57660	69.53077	14.04603	83.57680	94.07222	10.49542(-)
20-6									
22	90.20320	75.17359	15.02961	90.20320	77.92415	12.27905	90.20320	104.56077	14.35757(-)
26	100.87080	82.73111	16.13969	100.87080	85.68720	15.18360	100.87080	115.49075	14.61950(-)

Size	1894-95 Net Sales Price	Cost and Expense (per value)	Net Profit	1895-96 Net Sales Price	Cost and Expense (per value)	Net Profit	1896-97 Net Sales Price	Cost and Expense (per value)	Net Profit
8-8	44.80 x	43.87547	.92453	44.80 x	34.37724	10.42276	42.00	34.03604	7.96396
10-7	48.00 x	48.68747	.68747 (-)	48.00 x	38.58030	9.41970	45.00	38.13353	6.86647
11-6	52.50	52.28973	.21027	52.50	41.24402	11.25598	48.75	40.67468	8.07532
12-6	56.00 x	55.48295	.51705	56.00 x	43.71388	12.28612	52.50	43.21564	9.28416
13-5				60.00	45.58015	14.41985	56.25	45.06787	11.18213
13-6	60.00	58.88068	1.11932	60.00	46.28065	13.71935	56.25	45.75700	10.49300
14-6				61.12515	50.80135	10.32380	54.84240	49.66569	5.17671
15-5	62.36160	67.48645	5.10485(-)	62.38100	53.32033	9.06127	58.63160	52.76216	5.86944
15-6				62.25280	54.14569	8.10711	58.50280	53.57436	4.92844
16-6	65.43160	72.05664	6.62504(-)	65.43160	57.52094	7.91066	65.43160	57.77739	7.65421
17-6	68.96320	76.62682	7.66362(-)	68.96320	60.89618	8.06702	68.96320	61.15971	7. 80349
18-6				73.73920	62.83004	10.90916	73.73920	63.16007	10.57913
20-5	79.82680	87.27906	7.45226(-)	79.82680	68.38144	11.44536	79.82680	67.99561	11.83119
20-6									
22	90.20320	96.89601	6.69281(-)	90.20320	76.47707	13.72613	90.20320	76.07064	14.13256
26	100.87050	106.65858	5.98778(-)	100.87080	84.11848	16.75232	97.12080	83.73579	13.38501
9-7	46.40 x	46.18146	.21854	46.40	36.47877	9.92123	43.50 x	36.08478	7.41522

x Estimated

SCHEDULE IX. page 2. Profit on Shoe Drills (Expense pro rated per value)

Size	1897-98 Net Sales Price	Cost and Expense (per value)	Net Profit	1898-99 Net Sales Price	Cost and Expense (per value)	Net Profit	1899-1900 Net Sales Price	Cost and Expense (per value)	Net Profit
8-8	42.00	28.04041	13.95953	42.00	29.52865	12.47135	42.00	35.97534	6.02466
10-7	45.00	31.51226	13.48774	45.00	32.38867	12.61133	45.00	39.73776	5.26224
11-6	48.75	33.52144	15.22856	48.75	34.09682	14.65318	48.75	41.78987	6.96023
12-6	52.50	35.53063	16.96937	52.50	35.80500	16.69500	52.50	43.84200	8.65800
13-5	56.25	36.87532	19.37468	56.25	37.51311	18.73689	56.25	46.43019	9.81981
13-6	56.25	37.53981	18.71091	56.25	38.17950	18.07050	56.25	46.43019	9.81981
14-6	54.84240	40.86985	13.97255	57.37515	40.65687	16.71828	57.37515	52.69909	4.67606
15-5	58.63160	43.41670	15.21490	58.63160	44.14273	14.48887	61.01970	55.20182	5.81788
15-6	58.50280	44.19986	14.30292	58.50280	44.92926	13.57354			
16-6	65.43160	47.46849	17.96311	68.28885	48.24666	20.04219	68.28885	58.98939	9.29946
17-6	66.96320	50.22664	16.73656	68.96320	51.10048	17.86272	72.92760	62.46324	10.46444
18-6	73.73920	51.65970	22.07950	76.81370	52.52163	24.29207	80.81570	65.44284	15.37286
20-5	79.82680	55.54727	24.27953	79.82680	56.46753	23.35927	82.59270	69.60753	13.28517
20-6							82.74450	71.93125	10.81325
22	90.20320	62.39537	27.80783	90.20320	63.44310	26.76010	89.99370	77.49860	12.49510
26	97.12080	68.36043	28.75937	97.12080	69.52215	27.59865	100.93975	85.13270	15.80605
9-7	43.50 x	29.77633	13.72367				43.50 x	38.84844	4.65156

x Estimated

Size	1900-1901 Net Sales Price	Cost and Expense (per value)	Net Profit	1901-02 Net Sales Price	Cost and Expense (per value)	Net Profit	1902-03 Net Sales Price	Cost and Expense (per value)	Net Profit
8-8	47.00	37.43029	9.56971	47.00	38.82467	8.17533	47.00	39.55869	7.44131
10-7	52.00	41.56053	10.43947	52.00	43.03114	8.96886	52.00	43.87224	8.12776
11-6									
12-6	58.00	45.60456	12.39544	58.00	47.17098	10.82902	58.00	48.05253	9.94747
13-5	58.00	47.47159	10.47159	58.00	49.06323	8.93677	58.00	50.11786	8.88214
13-6	60.00	47.88061	12.11939	60.00	49.51133	10.48867	60.00	50.49078	9.50922
14-6	65.37515	54.82580	10.54935	65.37515	56.68217	8.69298	65.37515	57.82965	7.54550
15-5	65.26970	56.65439	8.61531	65.26970	58.51331	6.75639	65.26970	59.83366	5.43604
15-6									
16-6	75.03885	62.25159	12.78726	75.03885	64.31285	10.72600	75.03885	65.56670	9.47215
17-6									
18-6	81.81370	67.42709	14.38661	81.81370	69.72690	12.08680	81.81370	71.07249	10.74121
20-5	86.64270	71.53406	15.10864	86.64270	73.86621	12.77449	86.64270	75.29711	11.34559
20-6	86.49450	73.73193	12.76257	86.49450	76.12948	10.36502	86.49450	77.76201	8.73249
22	96.24370	79.93233	16.31037	96.24370	82.54992	13.69378	96.24370	84.18302	12.06068
26	105.93875	87.56581	18.37294	105.93875	90.33597	15.60278	105.93875	92.12071	13.81804
24 x	101.09123	83.74901	17.34222						

x Estimated

SCHEDULE X.

This schedule is analogous to the two preceding ones, the one difference being that the general and selling expense of each machine is prorated per machine and per value, or, as it has been termed heretofore, "properly distributed." The average expense properly distributed was taken from Schedule VI, from the column so headed. To this was added the cost of material and labor for each size of machine, as given in Exhibit 2, thus giving the total cost and expense of each machine.

SCHEDULE X. page 1. Profit on Shoe Drills (Expense pro rated per value and per machine) SCHEDULE shows the Net Profit when the General and Selling Expense has been pro rated per value and per machine.

Size	1891-92 Net Sales Price	1891-92 Cost and Expense (per value and per machine)	1891-92 Net Profit	1892-93 Net Sales Price	1892-93 Cost and Expense (per value and per machine)	1892-93 Net Profit	1893-94 Net Sales Price	1893-94 Cost and Expense (per value and per machine)	1893-94 Net Profit
8-8									
10-7									
11-6	52.50	42.16830	10.33170	52.50	44.34972	8.15028	52.50	56.78644	4.28644(-)
12-6									
13-6	60.00	46.51107	13.48893	60.00	48.68847	11.31153	60.00	61.77442	1.77442(-)
14-6									
15-5	62.38160	52.95804	9.43356	62.38160	55.14415	7.23745	62.38160	68.87186	5.49026(-)
15-6									
16-6									
17-6	68.96320	59.99231	8.97089	68.96320	62.21122	6.75198	68.96320	76.59270	7.62950(-)
18-6									
20-5	83.57680	65.91621	17.66059	83.57680	68.09192	15.46488	83.57680	83.69680	.11980(-)
20-6									
22	90.20320	73.44835	16.75485	90.20320	75.69015	14.51305	90.20320	91.96520	1.76200(-)
26	100.87080	80.10892	20.76188	100.87080	82.26047	18.61033	100.87080	99.59026	1.28054

Size	1894-95 Net Sales Price	1894-95 Cost and Expense (per value and per machine)	1894-95 Net Profit	1895-96 Net Sales Price	1895-96 Cost and Expense per value and per machine)	1895-96 Net Profit	1896-97 Net Sales Price	1896-97 Cost and Expense (per value and per machine)	1896-97 Net Profit
8-8	44.80 x	52.32322	7.52322(-)	44.80 x	38.86609	5.93491	42.00	38.43373	3.56627
10-7	48.00 x	56.29841	8.29841 (-)	48.00 x	42.62367	5.37633	45.00	42.04195	2.95805
11-6	52.50	58.72388	6.22388(-)	52.50	44.66094	7.83906	48.75	43.97152	4.77848
12-6	56.00 x	61.00181	5.00181 (-)	56.00 x	46.64357	9.35643	52.50	45.90189	6.59811
13-5	60.00	63.35350	3.35350(-)	60.00	47.95300	12.04700	56.25	47.14153	9.10847
13-6	60.00	63.35350	3.35350(-)	60.00	48.65350	11.34650	56.25	47.83066	8.41934
14-6				61.12515	52.06398	9.06117	54.84240	51.12776	3.71464
15-5	62.38160	69.99795	7.61635(-)	62.38160	54.64910	7.73250	58.63160	53.61865	5.01295
15-6				62.25280	55.47446	6.77834	58.50280	54.42486	4.07795
16-6	65.43160	73.58748	8.15588(-)	65.43160	58.32768	7.10392	65.43160	57.40470	8.02690
17-6	68.96320	77.17699	8.21379(-)	68.96320	61.18088	7.78232	68.96320	60.17643	8.78677
18-6				73.73920	62.41869	11.32051	73.73920	61.36034	12.37886
20-5	79.82680	83.90658	4.07978(-)	79.82680	76.57799	13.24881	79.82680	65.17667	14.65013
20-6									
22	90.20320	91.56221	1.35901(-)	90.20320	73.62954	16.57366	90.20320	72.02843	18.17477
26	100.87080	98.58479	2.28601	100.87080	79.70484	21.16596	97.12080	77.86081	19.25999
9-7	46.40 x	54.21075	7.81075 (-)	46.40 x	40.74488	5.65512	43.50 x	40.23784	3.26216

x Estimated

SCHEDULE X. Page 2. Profit on Shoe Drills (Expense pro rated per value and per machine)

Size	1897-98 Net Sales Price	Cost and Expense (per value and per machine)	Net Profit	1898-99 Net Sales Price	Cost and Expense (per value and per machine)	Net Profit	1899-1900 Net Sales Price	Cost and Expense (per value and per machine)	Net Profit
8-8	42.00	30.35639	11.64361	42.00	32.06817	9.93183	42.00	38.99151	3.00849
10-7	45.00	33.53967	11.46033	45.00	34.62903	10.37097	45.00	42.43129	2.56871
11-6	48.75	35.16314	13.58686	48.75	35.96323	12.78677	48.75	44.08123	4.66877
12-6	52.50	36.83662	15.66338	52.50	37.29746	15.20254	52.50	45.72563	6.77437
13-5	56.25	37.82059	18.42941	56.25	38.63162	17.61838	56.25	47.91119	8.33881
13-6	56.25	38.48508	17.76492	56.25	39.29801	16.95199	56.25	47.91119	8.33881
14-6	54.84240	41.45441	13.38799	57.37515	41.40143	15.97372	57.37515	53.78242	3.59273
15-5	58.63160	43.64055	14.99105	58.63160	44.51334	14.11826	61.01970	55.88247	5.13723
15-6	58.50280	44.42373	14.07907	58.50280	45.29987	13.20293	61.07955	55.88247	5.19708
16-6	65.43160	46.97091	18.46069	68.28885	47.86937	20.41948	68.28885	59.92189	8.36696
17-6	68.96320	49.36835	19.59485	68.96320	50.34924	18.61396	72.92760	61.93537	10.99223
18-6	73.73920	50.32046	23.41874	76.81370	51.27179	25.54191	80.81370	64.37857	16.43513
20-5	79.82680	53.60684	26.21996	79.82680	54.59444	25.23236	82.89270	67.87213	15.02057
20-6							82.74450	70.19585	12.54865
22	90.20320	59.74352	30.45968	90.20320	60.82211	29.38109	89.99370	74.95785	15.03585
26	97.12080	64.61644	32.50436	97.12080	65.77931	31.34149	100.93875	81.38343	19.55532
9-7	43.50 *	31.94703	11.55297				43.50 *	40.70354	2.79646

* Estimated

Size	1900-01 Net Sales Price	Cost and Expense (per value and per machine)	Net Profit	1901-02 Net Sales Price	Cost and Expense (per value and per machine)	Net Profit	1902-03 Net Sales Price	Cost and Expense (per value and per machine)	Net Profit
8-8	47.00	41.12771	5.87229	47.00	43.06904	3.93096	47.00	44.87090	2.12910
10-7	52.00	44.45350	7.54650	52.00	46.37556	5.62444	52.00	48.44225	3.55775
11-6									
12-6	58.00	47.53219	10.46781	58.00	49.43546	8.56454	58.00	51.73200	6.26800
13-5	58.00	49.39922	8.60078	58.00	51.32771	6.67229	58.00	53.79723	4.20277
13-6	60.00	49.48646	10.51354	60.00	51.41583	8.58417	60.00	53.87327	6.13673
14-6	65.37515	55.14453	10.23062	65.37515	57.14675	8.22840	65.37515	60.02462	5.35053
15-5	65.26970	56.97312	8.29658	65.26970	59.07789	6.19181	65.26970	62.02859	3.24075
15-6									
16-6	75.03885	60.96142	14.07743	75.03885	62.97753	12.06132	75.03885	66.27827	8.76058
17-6									
18-6	81.81370	65.01069	16.80301	81.81370	67.13165	14.68205	81.81370	70.74398	11.06972
20-5	86.64270	68.31321	18.32949	86.64270	70.37301	16.26969	86.64270	74.22640	12.41630
20-6	86.49450	70.51108	15.98342	86.49450	72.63428	13.86022	86.49450	76.69130	9.80320
22	96.24370	75.10258	21.14112	96.24370	77.25482	18.98888	96.24370	81.62791	14.61579
26	105.93875	81.12716	24.81159	105.93875	83.24097	22.69778	105.93875	88.08120	17.85755
24	101.09123 *	76.11487	22.97636						

* Estimated

SCHEDULE XI.

Schedule XI contains the cost of the material and labor (the latter including labor, expense and supplies), entering into the construction of the different sizes of Hoe Drills for the year 1899-00.

The Exhibit entitled "1899-00, 12-6 Hoe Drill, Summary," page 51, prepared by McVicker and introduced January 5th, '05, was used as the basis from which the figures in this schedule were determined.

Comparing the figures of that schedule with the corresponding figures for the 12-6 Shoe Drill, found on pages 2/9 and 2/10 of Exhibit 2,— "Proportionate Cost of Various Sizes of Shoe Drills," prepared by McVicker, it was found that only the figures given for Frame, Hoe and Feed and Zig-Zag Lever of the 12-6 Hoe Drill, differed from those given for the Frame, and Shoes and Feeds of the 12-6 Shoe Drill.

With this as the starting point, and using the figures given for the other sizes of Shoe Drills for the same year 1899-00 as a basis, and proportioning the cost of the Frame, Hoes and Feeds, and Zig-Zag Lever, the figures for the other sizes of Hoe Drills for that year 1899-00 were determined.

The column headed "Coefficient" is the coefficient derived by dividing the total cost of material, labor, etc., of the Hoe Drills, by the cost of material, labor, etc., of corresponding sizes of Shoe Drills.

SCHEDULE XI. 1899-1900 Hoe Drills

Size	Material: Frame	Material: Hoes, Feeds and Zig-Zag	Material: Grain Box etc.	Material: Total	Labor, Expense and Supplies: Frame	Labor, Expense and Supplies: Hoes, Feeds and Zig-Zag	Labor, Expense and Supplies: Grain Box etc.	Labor, Expense and Supplies: Total	Total Cost of Material 125.788%	Total Cost of Labor etc. 193.381%	Total Cost Material Labor etc.	Coefficient
8-8	4.85360	3.82451	5.05465	13.73276	1.77991	1.20967	2.43705	5.48861	17.27416	10.49405	27.76821	.92058
9-7	4.85360	4.30257	5.10521	14.26138	1.77991	1.36088	2.47040	5.61119	17.93911	10.85097	28.79008	.90772
10-7	4.85360	4.78063	5.18457	14.81880	1.77991	1.51209	2.50377	5.79577	18.64027	11.20792	29.84819	.89390
10-8	4.85360	4.78063	5.18457	14.81880	1.77991	1.51209	2.50377	5.79577	18.64027	11.20792	29.84819	.89390
11-7	4.85360	5.25869	5.18457	15.29686	1.77991	1.66330	2.50377	5.94698	19.14160	11.50033	30.64193	.87754
12-6	4.85360	5.73675	5.18457	15.77492	1.77991	1.81451	2.50377	6.09819	19.84325	11.79270	31.63595	.86812
12-8	4.85360	5.73675	5.18457	15.77492	1.77991	1.81451	2.50377	6.09819	19.84325	11.79270	31.63595	.86812
13-6	5.18505	6.21481	5.21713	16.61699	1.90029	1.96572	2.52071	6.38672	20.90218	12.35070	33.25288	.86368
14-6	5.65617	6.69287	6.91278	20.26182	2.07304	2.11693	3.25708	7.44705	24.22906	14.39918	38.62824	.87312
15-6	5.77929	7.17093	1.13464	14.08486	2.11911	2.26814	3.31984	7.70709	25.26434	14.90405	40.16839	.86915
16-6	6.53602	7.64864	7.57324	21.75790	2.38129	2.41904	3.59432	8.39465	27.36883	16.23367	43.60250	.87199
16-8	6.53602	7.64864	7.57324	21.75790	2.38129	2.41904	3.59432	8.39465	27.36883	16.23367	43.60250	.87199
17-6	6.78756	8.12670	7.67464	22.58890	2.48054	2.57025	3.64139	8.69218	28.41413	16.80902	45.22315	.87149
18-7	7.03909	8.60476	7.75603	23.39988	2.57978	2.72146	3.68846	8.98970	29.82377	17.38437	47.20814	.87117
20-7	7.29048	9.56120	8.81590	25.66758	2.67192	3.02420	4.14112	9.83724	32.28621	19.02335	51.30956	.85840
22-6	7.82442	10.51732	9.12535	27.46709	2.86771	3.32662	4.30966	10.50399	34.55030	20.31272	54.86302	.85329
24 x	7.82442	11.47344	9.11520	28.41306	2.86771	3.62903	4.30443	10.80117	35.74022	20.88741	56.62763	.84132
26	7.82442	12.42956	9.10504	29.35902	2.86771	3.93144	4.29920	11.09835	36.93012	21.46210	58.39222	.83023

SCHEDULE XII.

Using the coefficients for the different sizes, as given in the preceding Schedule XI, and multiplying the total cost of material, labor, etc., of the Shoe Drills for the various years by the coefficient for that size, the proportionate cost of material, labor, etc., of the Hoe Drills for each year from 1894 to 1903 was determined.

These results are given in this schedule. The coefficient given at the head of each column is taken from the preceding Schedule XI, the total cost of material, labor, etc., of the Shoe Drills being taken from Exhibit 2, "Proportionate Cost of Various Sizes of Shoe Drills," as prepared by McVicker.

SCHEDULE XII. Proportionate Cost (Material and Labor) of Hoe Drills

Year	8-6 Coeff.=.92058	9-7 Coeff.=.90772	10-7 Coeff.=.89390	11-7 Coeff.=.87754	12-6 Coeff.=.86812	13-6 Coeff.=.86368	14-6 Coeff.=.87312	15-6 Coeff.=.86915	16-6 Coeff.=.87199
1891-2	25.19368	26.56083	27.84961	29.00615	30.38864	31.91937	34.89147	37.34412	40 33766
1892-3	25.03365	26.43526	27.67191	28.81984	30.18261	31.69180	34.64413	36.78068	40.06661
1893-4	25.74148	27.13963	28.45773	29.63949	30.46060	32.63211	35.65897	39.13603	41.21374
1894-5	23.50240	24.77307	25.97054	27.04104	28.28001	29.65677	32.55675	34.65786	37.57570
1895-6	23.65184	24.94758	26.16894	27.26198	28.52444	29.92569	33.05161	35.68742	38.11331
1896-7	22.87120	24.11341	25.28411	26.33125	27.54217	28.88724	31.89917	34.43805	36.78431
1897-8	21.12365	22.23302	23.28342	24.22077	25.30961	26.52230	29.32186	31.66701	33.84045
1898-9	21.97595	22.93931	23.34107	25.40285	25.58337	26.96917	29.95928	32.20070	34.39019
1899-00	27.76821	28.78986	29.84819	30.64193	31.63595	33.25288	38.62824	40.16839	43.60250
1900-01	26.60899	26.66171	27.64476	28.37482	29.29298	30.75665	35.72730	37.15427	40.39297
1901-02	26.04719	27.08404	28.05106	28.76428	29.66934	31.15150	36.18800	37.61500	40.84135
1902-03	28.34933	29.48792	30.65021	31.33444	32.32601	33.94537	39.42169	40.99419	44.49226

Year	17-6 Coeff.=.87149	18-6 Coeff.=.87117	20-6 Coeff.=.85840	22-6 Coeff.=.85329	24 * Coeff.=.84132	26 Coeff.=.83023
1891-2	43.19310	43.93715	46.87719	52.65188	54.43822	56.21263
1892-3	42.91545	43,60208	46.48371	52.27540	53.99910	55.71175
1893-4	44.18131	44.88479	47.88226	53.81565	55.64937	57.47016
1894-5	40.04328	40.75174	43.31878	48.64917	50.22169	51.77110
1895-6	40.39938	41.22484	43.72298	49.10879	50.73683	52.23455
1896-7	38.99566	39.77071	42.16443	47.20321	48.92781	50.44356
1897-8	35.83383	36.54009	38.68999	43.52585	44.84977	46.16758
1898-9	36.45354	37.13975	39.31928	44.24626	45.59777	46.94291
1899-00	45.39123	47.20814	51.30958	54.86302	56.62738	58.39165
1900-01	41.95072	43.59660	47.49186	50.76482	52.39365	54.02283
1901-02	42.49369	44.18361	48.04034	51.32106	53.35458	54.53620
1902-03	46.29669	48.10896	52.34576	55.92208	57.69237	59.45286

* Estimated.

SCHEDULE XIII.

This schedule shows the profit or loss on Hoe Drills for the different years, the general and selling expense being prorated per machine. The asterisk indicates that the net sales price of the various sizes so indicated was estimated, owing to the fact that those sizes were not manufactured by the Dowagiac Mfg. Co. that year.

The method that was used in Schedule VIII for determining the net sales price, cost and expense, and net profit, was used here. (See explanatory note, Schedule VIII.) All estimated net sales prices were based on corresponding net sales prices of same size of Shoe Drills for that year, and freight allowance determined as per explanatory note, Schedule VIII. To the cost of material and labor (Schedule XII) was added the average general and selling expense per machine (Schedule VII) giving the total cost and expense per machine.

SCHEDULE XIII. Page 1. Profit on Hoe Drills (Expense pro rated per machine)

Size	1891-1892 Net Sales Price	Cost and Expense (per machine)	Net Profit	1892-1893 Net Sales Price	Cost and Expense (per machine)	Net Profit	1893-1894 Net Sales Price	Cost and Expense (per machine)	Net Profit
8	34.50 x	35.67727	1.17727 (-)	34.50 x	38.09451	3.59451 (-)	34.50 x	49.02736	14.52736 (-)
9	37.50 x	37.04442	.45558	37.50 x	39.49662	1.99662 (-)	37.50 x	50.42551	12.92551(-)
10	40.50 x	38.33320	1.66680	40.50 x	40.73277	.23277 (-)	40.50 x	51.74361	11.24361 (-)
11	42.75 x	39.48674	2.51126	42.75 x	41.88070	.86930	42.75 x	52.92837	10.17837 (-)
12	45.00 x	40.87223	4.12777	45.00 x	43.24347	1.75653	45.00 x	53.74648	8.74648 (-)
13	47.50 x	42.40296	5.09704	47.50 x	44.75266	2.74734	47.50 x	55.91799	8.41799 (-)
14	50.00 x	45.37506	4.62494	50.00 x	47.70499	2.29501	50.00 x	55.94485	5.94485 (-)
15	46.8816 X	47.82771	.94611 (-)	46.8816 x	49.84164	2.96994 (-)	46.8816 x	62.42191	15.54031 (-)
16	48.35520 x	50.82125	2.46605 (-)	48.35520 x	53.12747	4.77227 (-)	48.35520 x	64.49962	16.14442(-)
17	56.9632 x	53.67669	3.28651	56.96320 x	56.97631	.98689	56.9632ex	67.41719	10.45399 (-)
18	65.73920 x	54.42074	11.31846	65.73920 x	56.66294	9.07626	65.73920 x	68.17067	2.43147 (-)
20	68.57680 x	57.36078	11.21602	68.57680 x	59.54457	9.03223	68.57680 x	71.16814	2.59134 (-)
22	75.20320 x	63.13495	12.06826	75.20320 x	65.33626	9.86694	75.20320 x	77.10153	1.89833 (-)
24	80.91200 x	64.92181	15.99019	80.91200 x	68.71023	12.20177	80.91200 x	78.93525	1.97675
26	86.62080 x	66.69622	19.92458	86.62080 x	70.53102	16.08978	86.62080 x	80.75604	5.86476

Size	1894-1895 Net Sales Price	Cost and Expense (per machine)	Net Profit	1895-1896 Net Sales price	Cost and Expense (per machine)	Net Profit	1896-1897 Net Sales Price	Cost and Expense (per machine)	Net Profit
8	34.50	55.04378	20.54378 (-)	34.50	38.59859	4.09859 (-)	36.00	37.98502	1.98502 (-)
9	37.50 x	56.31445	18.81445 (-)	37.50 x	39.89438	2.39433 (-)	38.25 x	39.30723	.95723 (-)
10	40.50	57.51192	17.01192 (-)	40.50	41.11569	.61569 (-)	40.50	40.37793	.12207
11	42.75	58.58242	15.83242 (-)	42.75	42.20873	.54127	42.75	41.42507	1.32493
12	45.00	59.82139	14.82139 (-)	45.00	43.47119	1.52881	45.00	42.63599	2.36401
13	47.50 x	61.19815	13.69815 (-)	47.50 x	44.87244	2.62756	47.50 x	43.98106	3.51894
14	50.00	64.09813	14.09813 (-)	50.00	47.99836	2.00164	50.00	46.99299	3.00701
15	46.8816 x	66.19924	19.31764 (-)	46.75280 x	50.63417	3.88137 (-)	46.75280 x	49.53187	2.77907 (-)
16	48.35520	69.11708	20.76188 (-)	48.35520	53.06006	4.70486 (-)	48.35520	51.87813	3.52293 (-)
17	56.9632ex	71.58466	14.62146 (-)	56.96320 x	55.34613	1.61707	56.96320 x	54.08948	2.87372
18	65.73920	72.29312	6.55392 (-)	65.73920	56.17159	9.56761	65.73920	54.86454	10.87466
20	68.57680 x	74.86016	6.27336 (-)	68.57680 x	58.66973	9.90707	68.57680 x	57.25825	11.31855
22	75.20320 x	80.19055	4.98735 (-)	75.20320 x	64.05554	11.14766	75.20320 x	62.29703	12.90617
24	80.91200 x	81.76307	.85107 (-)	80.91200 x	65.68358	15.22842	80.91200 x	64.02163	16.89037
26	86.62080 x	83.31248	3.30832	86.62080 x	67.18130	19.43950	86.62080 x	65.53738	21.08342

x Estimated

SCHEDULE XIII. Page 2. Profit on Hoe Drills (Expense pro rated per machine)

Size	1897-1898 Net Sales Price	Cost and Expense (per machine)	Net Profit	1898-1899 Net Sales Price	Cost and Expense (per machine)	Net Profit	Size	1899-1900 Net Sales Price	Cost and Expense (per machine)	Net Profit
8	36.00	29.15038	6.84962	36.00	30.34115	5.65885	8	36.00	37.64890	1.64890 (-)
9	38.25 *	30.25975	7.99025	38.25 *	31.30451	6.94549	9	38.25 *	38.67055	.42055 (-)
10	40.50	31.31015	9.18985	40.50	32.20627	8.29373	10	40.50	39.72888	.77112
11	42.75	32.24750	10.50250	42.75	33.76805	8.98195	11	42.75	40.52262	2.22738
12	45.00	33.33634	11.66366	45.00	33.94857	11.05143	12	45.00	41.51664	3.48336
13	47.50 *	34.54903	12.95097	47.50 *	35.33437	12.16563	13	47.50 *	43.13357	4.36643
14	50.00	37.34859	12.65141	50.00	38.32446	11.67552	14	47.37518	48.50893	1.13375 (-)
15	46.75280 *	39.71374	7.03906	46.75280	40.56590	6.18690	15	49.26970 *	50.04908	.77938 (-)
16	48.35520	41.87318	6.48202	48.35520	42.75539	5.59981	16	51.03665	53.48319	2.44434 (-)
17	50.96320 *	43.86056	7.10264	50.96320 *	44.81874	6.14446	17	53.92770 *	55.10339	1.17569 (-)
18	53.73920	44.56682	9.17238	53.73920	45.50495	8.23425	18	56.81370	57.08883	.27513 (-)
20	57.32680	46.71672	10.61008	57.32680	47.68448	9.64232	20	60.24430	61.19025	.94575 (-)
22	67.70320 *	51.55258	16.15062	67.70320 *	52.61146	15.09174	22	71.24370 *	64.74371	6.49999
24	69.41200 *	52.87650	16.53550	69.41200 *	53.96297	15.44903	24	73.09122 *	66.50805	6.58317
26	70.87080 *	54.19431	16.67649	70.87080 *	55.30811	15.56269	26	74.68875 *	68.27234	6.41641

Size	1900-1901 Net Sales Price	Cost and Expense (per machine)	Net Profit	1901-1902 Net Sales Price	Cost and Expense (per machine)	Net Profit	1902-1903 Net Sales Price	Cost and Expense (per machine)	Net Profit
8	40.00	39.92240	.07760	37.00	41.86309	4.86309 (-)	37.00	43.58731	6.58731 (-)
9	41.50 *	40.97512	.52488	40.00	42.89994	2.89994 (-)	40.00	44.72590	4.72590 (-)
10	43.00	41.95817	1.04183	45.00	43.86696	1.13304	45.00	45.78819	.78819 (-)
11	45.00	42.68823	3.31177	48.00	44.58018	3.41982	48.00	46.57242	1.42758
12	50.00	43.60637	6.39363	50.00	45.48524	4.51476	50.00	47.56399	2.43601
13	56.00 *	45.06906	10.93094	56.00 *	46.96740	9.03260	56.00 *	49.18335	6.81665
14	59.37518	50.04071	9.33447	59.37518	52.00390	7.37128	59.37518	54.65967	4.71551
15	62.26970 *	51.46768	10.80202	61.76970 *	53.43090	8.33880	61.76970 *	56.22217	5.54753
16	65.03885	54.70638	10.33247	64.03885	56.65725	7.38160	64.03885	59.73024	4.30861
17	68.92770 *	55.27192	13.65578	69.92770 *	58.30959	11.61811	69.92770 *	61.53467	8.39303
18	72.81370	57.91001	14.90369	76.81370	59.99951	16.81419	76.81370	63.34694	13.46676
20	76.49450	61.80527	14.68923	81.49450	63.85624	17.63826	81.49450	67.58374	13.91076
22	85.24370 *	65.07823	20.16547	89.49370 *	67.13696	22.35674	89.49370 *	71.16006	18.33364
24	90.09122 *	66.70706	23.38416	92.09122 *	69.17048	22.92074	92.09122 *	72.93035	19.16087
26	94.93875	68.33624	26.60251	94.93875 *	70.35410	24.58465	94.93875 *	74.69084	20.24791

* Estimated

SCHEDULE XIV.

In determining the cost and expense (per value) in this schedule, the same method was used as in Schedule IX (see explanatory note).

The cost of material and labor of each size was taken from Schedule XII, to which was added the average general and selling expense prorated per value of machine, as given in Schedule VI.

SCHEDULE XIV. Page 1.

Profit on Hoe Drills (Expense pro rated per Value)

Size	1891-1892 Net Sales Price	Cost and Expense (per value)	Net Profit	1892-1893 Net Sales Price	Cost and Expense (per value)	Net Profit	1893-1894 Net Sales Price	Cost and Expense (per value)	Net Profit
8	34.50 M	29.95986	4.54014	34.50 M	30.92901	3.57099	34.50 M	40.41985	5.91985 (-)
9	37.50 M	31.74146	5.75854	37.50 M	32.84376	4.65624	37.50 M	43.09438	5.59438 (-)
10	40.50 M	33.44469	7.05531	40.50 M	34.59255	5.90745	40.50 M	46.68886	6.18886 (-)
11	42.75 M	34.91106	7.83894	42.75 M	36.12496	6.62504	42.75 M	47.82791	5.07791 (-)
12	45.00 M	36.60539	8.39461	45.00 M	37.87221	7.12779	45.00 M	49.60630	4.60630 (-)
13	47.50 M	38.48250	9.01750	47.50 M	39.60860	7.89140	47.50 M	52.84146	5.34146 (-)
14	50.00 M	41.79897	8.20103	50.00 M	43.18813	6.81187	50.00 M	56.93197	6.93197 (-)
15	46.88160 M	44.52792	2.35368	46.88160 M	45.66644	1.21516	46.88160 M	61.25995	14.37835 (-)
16	48.35520 M	47.79776	.55744	48.35520 M	49.29413	.93893	48.35520 M	64.18858	15.83338 (-)
17	56.96320 M	51.92655	5.03665	56.96320 M	53.68089	3.28231	56.96320 M	70.93629	13.97209 (-)
18	65.73920 M	53.88395	11.85525	65.73920 M	55.90544	9.83376	65.73920 M	75.51791	9.77871 (-)
20	68.57680 M	57.23844	11.33836	68.57680 M	59.29979	9.27701	68.57680 M	79.79176	11.21496 (-)
22	75.20320 M	64.04874	11.15446	75.20320 M	66.37300	8.83020	75.20320 M	88.91610	13.71290 (-)
24	80.91200 M	66.66450	14.24750	80.91200 M	69.12198	11.79012	80.91200 M	93.30258	12.39058 (-)
26	86.62080 M	69.26781	17.35299	86.62080 M	71.85991	14.76089	86.62080 M	97.67613	11.05533 (-)

Size	1894-1895 Net Sales Price	Cost and Expense (per value)	Net Profit	1895-1896 Net Sales Price	Cost and Expense (per value)	Net Profit	1896-1897 Net Sales Price	Cost and Expense (per value)	Net Profit
8	34.50	37.61463	3.11463 (-)	34.50	30.34001	4.15999	36.00	30.74980	5.25020
9	37.50 M	40.11245	2.61245 (-)	37.50 M	32.21733	5.28267	38.25 M	32.48422	5.76578
10	40.50 M	42.33254	1.83254 (-)	40.50	33.92334	6.57666	40.50	34.14753	6.35247
11	42.75	44.50747	1.75747 (-)	42.75	35.54949	7.20051	42.75	35.68708	7.06292
12	45.00	46.68726	1.68726 (-)	45.00	37.24814	7.75186	45.00	37.39042	7.60958
13	47.50 M	49.08664	1.58664 (-)	47.50 M	39.13404	8.36596	47.50 M	39.28262	8.21738
14	50.00	53.00925	3.00925 (-)	50.00	42.74461	7.25539	50.00	42.84167	7.15833
15	46.88160	55.82619	8.94459 (-)	46.75280 M	45.71967	1.03313	46.75280 M	45.76343	.98937
16	48.35520	59.66440	11.30920 (-)	48.35520	48.58175	.22655 (-)	48.35520	48.60221	.24701 (-)
17	56.96320 M	65.81343	8.85023 (-)	56.96320 M	52.61256	4.35064	56.96320 M	52.78321	4.17999
18	65.73920	70.30334	4.56414 (-)	65.73920	55.18276	10.55644	65.73920	55.62791	10.21129
20	68.57680 M	73.99753	5.42073 (-)	68.57680 M	58.26248	10.31432	68.57680 M	58.57818	9.99862
22	75.20320 M	82.39580	7.19260 (-)	75.20320 M	65.09424	10.10896	75.20320 M	65.25633	9.94687
24	80.91200 M	86.42262	5.51062 (-)	80.91200 M	67.89344	13.01856	80.91200 M	68.29603	12.61597
26	86.62080 M	89.62633	3.00553 (-)	86.62080 M	70.55432	16.06648	86.62080 M	71.12489	15.49591

M Estimated

SCHEDULE XIV Page 2. Profit on Hoe Drills (expense pro rated per Value)

Size	1897-1898 Net Sales Price	Cost and Expense (per value)	Net Profit	1898-1899 Net Sales Price	Cost and expense (per value)	Net Profit	1899-1900 Net Sales Price	Cost and Expense (per value)	Net Profit
8	36.00	25.49585	10.50415	36.00	26.42627	9.57373	36.00	33.04277	2.95723
9	38.25 x	26.87848	11.37152	38.25 x	27.66778	10.58222	38.25 x	34.18158	4.06842
10	40.50	28.20214	12.29786	40.50	28.34768	12.15232	40.50	36.55707	4.94293
11	42.75	29.41275	13.33725	42.75	30.68761	12.06239	42.75	36.66797	6.08203
12	45.00	30.77486	14.22514	45.00	31.14627	13.85372	45.00	37.97915	7.02085
13	47.50 x	32.29118	15.20882	47.50 x	32.84114	14.65886	47.50 x	39.94848	7.55152
14	50.00	35.32436	14.00564	50.00	36.14028	13.85972	47.37518	45.67624	1.69894
15	46.75280 x	38.00241	8.75039	46.75280x	38.89803	8.15477	49.26970 x	47.46307	1.80663
16	48.36520	40.40475	7.95045	48.36520	41.06567	7.29953	51.03885	51.21434	.17549 (-)
17	50.96320 x	42.75648	8.20672	50.96320x	43.49983	7.46337	53.92770 x	53.42595	.50175
18	53.73920	43.82709	9.91211	53.73920	44.55695	9.18225	56.81370	55.66574	1.14796
20	57.32680	46.43242	10.89438	57.32680	47.20006	10.12674	60.24450	60.29476	.05026(-)
22	67.70320 x	52.63460	15.06860	67.70320x	53.51776	14.18544	71.24370 x	65.43502	5.80868
24	69.41200 x	54.20142	15.21058	69.41200x	55.11651	14.29549	73.09122 x	67.48128	5.60994
26	70.87080 x	55.73177	15.13903	70.87080x	56.67799	14.19281	74.68875 x	69.49225	5.19650

Size	1900-1901 Net Sales Price	Cost and Expense (per value)	Net Profit	1901-1902 Net Sales Price	Cost and Expense (per value)	Net Profit	1902-1903 Net Sales Price	Cost and Expense (per value)	Net Profit
8	40.00	33.78939	6.21061	37.00	34.33704	2.66296	37.00	35.24835	1.75165
9	41.50 x	35.14888	6.35112	40.00	36.04604	3.95396	40.00	36.94632	3.05368
10	43.00	36.43669	6.56131	45.00	36.13331	8.86669	45.00	38.94091	6.05909
11	46.00	37.78228	8.21772	48.00	39.51868	8.48132	48.00	40.30052	7.69948
12	50.00	39.51846	10.48154	50.00	40.87184	9.12816	50.00	41.64901	8.35099
13	56.00 x	42.20821	13.79179	56.00 x	43.69830	12.30170	56.00 x	44.38713	11.61287
14	59.37518	48.40692	10.96826	59.37518	50.07910	9.29608	59.37518	50.98221	8.39297
15	62.26970 x	50.44742	11.82228	61.76970 x	52.06623	9.70347	61.76970 x	53.01086	8.75884
16	65.03885	54.29965	10.73920	64.03885	55.85270	8.18615	64.03885	56.98508	7.05377
17	68.92770 x	56.67644	12.25226	69.92770 x	58.84934	11.07836	69.92770 x	59.90827	10.01943
18	72.81370	59.13936	13.67434	76.81370	62.10761	14.70609	76.81370	63.18576	13.62794
20	76.49450	63.85266	12.64184	81.49450	67.09459	14.39991	81.49450	68.35486	13.13964
22	85.24370 x	68.96021	16.27749	89.49370x	72.21372	17.27998	89.49370 x	73.30948	16.18422
24	90.09122 x	71.61759	18.47363	92.09122 x	74.86338	17.22784	92.09122 x	75.59253	16.49869
26	94.93875 x	74.26932	20.66943	94.93875 x	76.71915	18.21960	94.93875 x	77.91240	17.02635

x Estimated

SCHEDULE XV.

This schedule is analogous to Schedule X.

To the cost of material and labor for each machine (Schedule XII) was added the average general and selling expense properly distributed.

SCHEDULE XV. . Page 1. Profit on Hoe Drills (Expense properly distributed)

Size	1891-1892 Net Sales Price	Cost and Expense (properly distributed)	Net Profit	1892-1893 Net Sales Price	Cost and Expense (properly distributed)	Net Profit	1893-1894 Net Sales Price	Cost and Expense (properly distributed)	Net Profit
8	34.50 x	33.25762	1.24238	34.50 x	35.37427	.87427 (-)	34.50 x	46.39770	11.89770 (-)
9	37.50 x	34.80003	2.69997	37.50 x-	36.97096	•52904	37.50 x	48.18941	10.68941 (-)
10	40.50 x	36.26407	4.23593	40.50 x	38.40169	2.10831	40.50 x	49.89891	9.39891 (-)
11	42.75 x	37.55106	5.19894	42.75 x	39.69576	3.05424	42.75 x	51.37497	8.62497 (-)
12	45.00 x	39.06599	5.93401	45.00 x	41.20426	3.79574	45.00 x	52.49038	7.49038 (-)
13	47.50 x	40.74277	6.75723	47.50 x	42.87560	4.62440	47.50 x	54.98889	7.48889 (-)
14	50.00 x	43.86092	6.13908	50.00 x	45.99008	4.00992	50.00 x	58.34275	8.74275 (-)
15	46.88160 x	46.43041	.45119	46.88160 x	48.25655	1.37495 (-)	46.88160 x	62.08141	15.19981 (-)
16	48.35520 x	49.54079	1.18559 (-)	48.35520 x	51.67200	3.21680 (-)	48.35520 x	64.52072	16.16552 (-)
17	56.96320 x	52.92201	4.04119	56.96320 x	55.10458	1.85862	56.96320 x	68.51549	11.55229(-)
18	65.73920 x	54.19184	11.54736	65.73920 x	56.37495	9.36425	65.73920 x	70.44617	4.70697 (-)
20	68.57680 x	57.30714	11.26966	68.57680 x	59.45116	9.12564	68.57680 x	73.83604	5.25924 (-)
22	75.20320 x	63.50946	11.69374	75.20320 x	65.72930	9.47390	75.20320 x	80.75043	5.54723 (-)
24	80.91200 x	65.64584	15.26616	80.91200 x	67.84216	13.06984	80.91200 x	83.36895	2.45695 (-)
26	86.62080 x	67.78177	18.83903	86.62080 x	69.94397	16.67683	86.62080 x	85.87454	.74626

Size	1894-1895 Net Sales Price	Cost and Expense properly distributed	Net Profit	1895-1896 Net Sales Price	Cost and Expense properly distributed	Net Profit	1896-1897 Net Sales Price	Cost and Expense properly distributed.	Net Profit
8	34.50	48.75395	14.25395 (-)	34.50	36.26271	1.76271 (-)	36.00	36.12603	.12603 (-)
9	37.50 x	50.46924	12.96924 (-)	37.50 x	37.72241	.22241 (-)	38.25 x	37.49370	.75630
10	40.50	52.10933	11.60933 (-)	40.50	39.08039	1.41961	40.50	38.78986	1.71014
11	42.75	53.51179	10.76179 (-)	42.75	40.32471	2.42529	42.75	39.96246	2.78754
12	45.00	55.08273	10.08273 (-)	45.00	41.70914	3.29086	45.00	41.29884	3.70116
13	47.50 x	56.82834	9.32834 (-)	47.50 x	43.24701	4.25299	47.50 x	42.78331	4.71669
14	50.00	60.09717	10.09717 (-)	50.00	46.50956	3.49054	50.00	45.93464	4.06536
15	46.88160 x	62.45647	15.57487 (-)	46.75280 x	49.24100	2.48820 (-)	46.75280 X	48.57110	1.81830 (-(
16	48.35520	65.70628	17.35108 (-)	48.35520	51.78986	3.43466 (-)	48.35520	51.04282	2.68762 (-)
17	56.96320 x	69.17172	12.20852 (-)	56.96320 x	54.56778	2.39542	56.96320 x	53.75601	3.20719
18	65.73920	71.53604	5.79684 (-)	65.73920	55.88509	9.85411	65.73920	55.03260	10.70660
20	68.57680 x	73.79770	5.22090 (-)	68.57680 x	58.54718	10.02962	68.57680 x	57.59390	10.99290
22	75.20320 x	80.15964	4.95644 (-)	75.20320 x	64.34206	10.86114	75.20320 x	63.05088	12.15232
24	80.91200 x	83.44240	2.53040 (-)	80.91200 x	66.29681	14.71319	80.91200 x	65.11004	15.80196
26	86.62080 x	84.93205	1.68875	86.62080 x	68.12442	18.49638	86.62080 x	66.96035	19.66045

x Estimated

SCHEDULE XV. Page 2. Profit on Hoe Drills (Expense properly distributed)

Size	1897-1898 Net Sales Price	Cost and Expense properly distributed	Net Profit	1898-1899 Net Sales Price	Cost and Expense properly distributed	Net Profit	1899-1900 Net Sales Price	Cost and Expense properly distributed.	Net Profit
8	36.00	28.38897	7.61103	36.00	29.56411	6.43589	36.00	36.50322	.50322(-)
9	38.25 ж	29.55517	8.69483	38.25 ж	30.58125	7.66875	38.25 ж	37.60043	.64957
10	40.50	30.66241	9.83759	40.50	31.53678	8.96322	40.50	38.73431	1.76569
11	42.75	31.65659	11.09341	42.75	33.15233	9.59767	42.75	39.60360	3.14640
12	45.00	32.80227	12.19773	45.00	33.38663	11.61336	45.00	40.67318	4.32682
13	47.50 ж	33.98811	13.51189	47.50 ж	34.83218	12.66782	47.50 ж	42.37406	5.12594
14	50.00	36.94082	13.05918	50.00	37.88204	12.11796	47.37518	47.83337	.45819 (-)
15	46.75280 ж	39.35017	7.40263	46.75280 ж	40.16528	6.58752	49.26970 ж	49.43228	.16258 (-)
16	48.35520	41.56645	6.78875	48.35520	42.40855	5.94665	51.03885	52.94195	1.90310 (-)
17	50.96320 ж	43.62961	7.23359	50.96320 ж	44.54160	6.41960	53.92770 ж	54.83142	.90372 (-)
18	53.73920	44.41165	9.32755	53.73920	45.30151	8.43769	56.81370	56.74907	.06463
20	57.32680	46.65627	10.67053	57.32680	47.57066	9.75614	60.24450	60.98641	.74191(-)
22	67.70320 ж	51.77631	15.92689	67.70320 ж	52.76652	14.93668	71.24370 ж	64.90765	6.33605
24	69.41200 ж	53.15075	16.26125	69.41200 ж	54.16583	15.24617	73.09122 ж	66.73915	6.35207
26	70.87080 ж	54.51277	16.25803	70.87080	55.55280	15.31800	74.68875 ж	68.56221	6.12654

Size	1900-1901 Net Sales Price	Cost and Expense properly distributed	Net Profit	1901-1902 Net Sales Price	Cost and Expense properly distributed	Net Profit	1902-1903 Net Sales price	Cost and Expense properly distributed	Net Profit
8	40.00	38.61304	1.38696	37.00	40.38131	3.38131 (-)	37.00	42.04496	5.04496 (-)
9	41.50 ж	39.73119	1.76881	40.00	41.55034	1.55034 (-)	40.00	43.29761	3.29761 (-)
10	43.00	40.77967	2.22033	45.00	42.73766	2.26234	45.00	44.55000	.45000
11	46.00	41.64059	4.35940	48.00	43.58306	4.41694	48.00	45.44829	2.55171
12	50.00	42.73321	7.26679	50.00	44.57624	5.42376	50.00	46.51590	3.48410
13	56.00 ж	44.45762	11.54238	56.00 ж	46.32276	9.67724	56.00 ж	48.36338	7.63662
14	59.37518	49.69099	9.68419	59.37518	51.62362	7.75156	59.37518	54.06982	5.30536
15	62.26970 ж	51.24882	11.02088	61.76970 ж	53.16077	8.50893	61.76970 ж	55.72537	6.04433
16	65.03885	54.61838	10.42047	64.03885	56.49727	7.54158	64.03885	59.32849	4.71036
17	66.92770 ж	56.35061	12.57709	69.92770 ж	58.41397	11.51373	69.92770 ж	61.36104	8.56666
18	72.81370	58.17097	14.64273	76.81370	60.41231	16.40139	76.81370	63.43945	13.37425
20	76.49450	62.24071	14.25379	81.49450	64.48934	17.00516	81.49450	67.86635	13.62815
22	86.24370 ж	66.90625	19.33745	89.49370 ж	68.13356	21.36014	89.49370 ж	71.75634	17.73736
24	90.09122 ж	67.75818	22.33804	92.09122 ж	70.28824	21.80298	92.09122 ж	73.63118	18.46004
26	94.93875 ж	69.60046	25.33829	94.93875 ж	71.60404	23.33471	94.93875 ж	75.50573	19.43302

ж Estimated

1198 United States of America. Circuit Court of the United States, District of Minnesota, Fourth Division.

I, Henry D. Lang, Clerk of said Circuit Court, do hereby certify and return to the Honorable, the United States Circuit Court of Appeals for the Eighth Circuit, that the foregoing, consisting of 1197 pages, numbered consecutively from 1 to 1197 inclusive, is a true and complete transcript of the following records and papers in the foregoing entitled causes, viz: Master's Reports, Bills of Exceptions, Court Proceedings on Master's Reports, Oral Decision of Judge Amidon, Motions for re-hearing, orders denying motions for re-hearing and ordering decrees, Final Decrees, Assignments of Error, Petitions for Appeal, Bonds on Appeal, Citations, Stipulations and orders extending time in which to file transcript, Stipulation as to return to Circuit Court of Appeals, and the following papers attached to said stipulation, viz: Complainant's records on accounting, Defendant's Record on accounting, Complainant's testimony in rebuttal, and Dowagiac Accounting Schedules, and of the whole thereof, as appears from the original records and files of said court; and I do further certify and return, that I have annexed to said transcript, and included within said paging, the original citations, together with the proof of service thereof.

In Witness Whereof, I have hereunto set my hand, and affixed the seal of said Court, at Minneapolis, in the District of Minnesota, this 13th day of March, A. D. 1909.

Seal
U. S. Circuit Court
Fourth Division
Dist. of Minnesota.

HENRY D. LANG, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

Filed Mar. 29, 1909. John D. Jordan, Clerk.

1199 United States Circuit Court for the District of Minnesota Fourth Division.

Term minutes October Term A. D. 1908. March 26th, 1909.

Friday morning.

Court opened pursuant to adjournment.

Present: Honorable Milton D. Purdy, Judge.
Henry D. Lang, Clerk,
By Geo. F. Hitchcock, Jr., Deputy Clerk.

Dowagiac Manufacturiing Company, Complainant,
No. 460. vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto that the time for filing the transcript herein be extended to and including March 30th, 1909, and it is the mutual request of the parties that the Court so order.

FRED L. CHAPPELL,
Solicitor for Complainant.

Kalamazoo, Michigan,
March 10, 1909.

Peoria, Illinois,
March 12th, 1909.

JULIUS S. STARR,
Solicitor for Defendants.

It is hereby Ordered, pursuant to the stipulation of the parties, that the time for filing the transcript herein be extended to and including the thirtieth day of March, 1909.

Dated this 13th day of March, 1909.

WALLTER H. SANBORN,
Circuit Judge.

1200 Circuit Court of the United States, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

Stipulation.

It is hereby stipulated and agreed by and between the parties hereto through their respective counsel, that owing to an inaccuracy in copying, the assignments of error in this cause may be amended to read as per the copy hereto attached and that an order of the Court may be entered nunc pro tunc permitting these assignments of error to be substituted and received in place of the erroneous copy.

FRED L. CHAPPELL,
Solicitor for Complainant.

Kalamazoo, Michigan,
March 23, 1909.

Peoria, Illinois,
March 29, 1909.

JULIUS S. STARR,
Solicitor for Defendants.

1201 United States Circuit Court, District of Minnesota, Fourth Division.

Dowagiac Manufacturing Company, Complainant,
No. 460. vs. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Defendants.

Assignments of Error.

And now, to-wit, on this 5th day of October, 1907, comes the complainant by its solicitor and counsel, Fred L. Chappel, and says that the final decree in the said cause is erroneous and against the rights of the complainant for the following reasons:

First: The Court erred in confirming the Master's report.

Second: The Court erred in not sustaining complainant's exceptions to the Master's findings.

Third: The Court erred in not sustaining the first exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding substantially that the infringement by defendants of complainant's patented machine was open, flagrant and continuous; that defendants invaded the territory theretofore supplied by complainant, which complainant endeavored to supply by every appliance known to the trade, and was able, willing and anxious to supply; that defendants employed former dealers of the complainant, to canvass the same territory for them previously canvassed for the complainant, for the purpose of selling the infringing machine, and reduced the prices established by complainant in said territory, thus compelling complainant to increase its selling force, and to reduce its prices to meet such reductions in price, to maintain its footing in said territory.

Fourth: The Court erred in not sustaining the second exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding substantially that it was the features of the patent in
1202 suit that made defendants' infringing machine saleable, so that the entire profits complainant might have made upon the infringing machines so sold by defendants are due complainant as damages herein; that complainant has proved that the sales of defendants' machines were entirely due to the patented features thereof, and complainant is therefore entitled to recover the entire profits and damages derived from the sale of the entire machines, and there is no occasion to apportion profits and damages between the patented and unpatented features of the machines, further than as has been done by complainant.

Fifth: The Court erred in not sustaining the third exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding substantially that the defendants gains and profits as appear

from the schedules of Mr. Hart, derived from the manufacture and sale of infringing machines during the period of said infringement, after making all legal deductions, amounts to substantially $11,857.67, the same being the difference between the cost and selling price plus the commission on goods sold on consignment.

Sixth: The Court erred in not sustaining the fourth exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding substantially that the damages sustained by complainant by reason of the sale of said infringed machines by defendants, were the amount of the profits which complainant might have made on the infringing machines that were made and sold by the defendants which complainant was equipped to make and sell and could have made and sold but for the unlawful competition of the defendants, that is to say, on 1,150 machines so made and sold at a profit of $23,344.12. These figures are based on the numbers here indicated, being 966 machines sold by Messrs. Selby, Starr & Co., as found in the summary of the sales, etc., at the back of the record, and the drills handled by Smith & Zimmer on commission account, all of which, so far as this record shows, are infringements, the figures being computations as to profits according to Schedule 9, page 1, presented at page 86 of the Dowagiac Accounting Schedules, said figures, of course, being subject to corrections for error.

Seventh: The Court erred in not sustaining the fifth exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not finding substantially that to the amount found in p. 4, should be added a loss to the complainant resulting from the fact that had it marketed said increased number of machines, certain expenses as of administration, operating and selling, would not have been proportionately or materially increased, so that the saving to complainant in that respect would have amounted to $10,079.00; these figures also being derived from the Dowagiac Accounting Schedules from the consideration of the overhead expenses as indicated in said schedule, subject to any errors that may be found in computation.

In reaching the amounts herein stated, there has been eliminated the saving to complainant by the use of certain patented features as the Fowle patent, 411,141, and the two Hoyt patents 448,861 and 492,302, aggregating a saving of 1.8% per shoe, which on 17,592 shoes amounts to $316.656. This elimination was made because said patented improve-

ments, while in no way modifying the price of the machine or affecting its sale, resulted in a saving to complainant of that amount in the cost of manufacture which is the basis of this computation.

1203 Eighth: The Court erred in not sustaining the sixth exception to the Master's finding, which is as follows:

The Master erred in finding for Complainant in nominal damages, whereas, said Master should have found for Complainant in the substantial sum amounting to not less than $35,857.00 or thereabouts, of which $10,079.00 can be classed as overhead expenses and $11,857.83 as substantially Defendants' profits, such profits being much less than defendants' damages and consequently not being very material.

Ninth: The Court erred in not sustaining the seventh exception to the Master's finding, which is as follows:

The Master erred in his finding as to the quantities of infringing drills, p. 2 of his report, the same being incorrectly stated.

Tenth: The Court erred in not sustaining the eighth exception to the Master's finding, which is as follows:

The Master erred as a matter of law and fact in not recommending the allowance to the complainant of all sums that it has paid out for expert service, including the services of Mr. McVicker of the Safeguard Account Company, and of Mr. Hart, of Hart Brothers, Tibbits, Herion & Co.

Eleventh: The Court erred in not sustaining the ninth exception to the Master's finding, which is as follows:

The Master erred in finding that there were no unpatented grain drills open to the public.

Twelfth: The Court erred in not sustaining the tenth exception to the Master's finding, which is as follows:

The Master erred in holding that the patent in suit is only for a part of a grain drill, viz., a spring, as distinguished from the entire drill. (P. 3 of report.)

1204 Thirteenth: The Court erred in not sustaining the eleventh exception to the Master's finding, which is as follows:

The Master erred in holding that saleability of the infringing drills did not rise from the patented features. (P. 3 of report.)

Fourteenth: The Court erred in not sustaining the twelfth exception to the Master's finding, which is as follows:

The Master erred in considering the testimony of Mr. Fowle as stated on p. 4 of his report.

Fifteenth: The Court erred in not sustaining the thirteenth exception to the Master's finding, which is as follows:

The Master erred in his application of the principles of law as laid down in Westinghouse vs. Air Brake Company, reward the bottom of p. 4 of his report.

Sixteenth: The Court erred in not sustaining the fourteenth exception to the Master's finding, which is as follows:

The Master erred in taking into consideration non-infringing drills, both shoe drills and disc drills, as referred to toward the bottom of p. of his report.

Seventeenth: The Court erred in not sustaining the fifteenth exception to the Master's finding, which is as follows:

The Master erred in holding that the disc drill has superseded the Dowagiac drill—and it is desired to comment at this point that this is a remarkable statement for the Master to make, to say that the disc drill has superseded the Dowagiac shoe drill, when he is not willing to admit that the Dowagiac shoe drill even superseded the broadcast seeder. This statement of the Master at this point shows a radical and unaccountable prejudice. (P. 4 of report.)

Eighteenth: The Court erred in not sustaining the sixteenth exception to the Master's finding, which is as follows:

1205 The Master erred in considering coil spring structures and holding that they were open to the public, when the undisputed testimony in the case is that such drills were all patented structures. (Pp. 4 and 5 of report.)

Nineteenth: The Court erred in not sustaining the seventeenth exception to the Master's finding, which is as follows:

The Master erred in the principle of law in holding that the disc drills and shoe drills were open for defendants to purchase,—that not being the question. (Pp. 4 and 5 of report.)

Twentieth: The Court erred in not sustaining the eighteenth exception to the Master's finding, which is as follows:

The Master erred in his consideration of the Hoyt spring—which is not the thing up for consideration herein—with other devices, particularly with the Van Brunt & Wilkins, the Mon-

itor, the Fountain City, the Superior, and the Tiger drills, all of which have been shown to be patented drills, and it appearing that there were no unpatented drills in use in the territory. (P. 5 of report.)

1206 Twenty-First: The Court erred in not sustaining the nineteenth exception to the Master's finding, which is as follows:

The Master erred in considering the testimony as stated on p. 5 of the report, toward the bottom of the page; because the hoe drill never superseded anything in this territory, it could not be used—and the bent of the Master's mind is indicated when he says that the weighted shoe drills superseded the hoe drill for the weighted shoe drills were sold two or three years to the extent of about three hundred a year. It will not be difficult to estimate to what extent the weighted shoe drills superseded anything.

Twenty-Second: The Court erred in not sustaining the twentieth exception to the Master's finding, which is as follows:

The Master erred in his statement and consideration of the number of drills on p. 6 of his report; he errs in considering such drills at all because they were not open to the public.

Twenty-Third: The Court erred in not sustaining the twenty-first exception to the Master's finding, which is as follows:

The Master erred in the application of the rule of law laid down in Keystone vs. Adams, 151 U. S., 139, Reed vs. Lawrence, 29 Fed., 915, Kansas City Hay. Press Co. vs. Devol, 12 Fed., 363. (P. 6 of report.)

Twenty-fourth: The Court erred in not sustaining the twenty-second exception to the Master's finding, which is as follows:

The Master erred in declining to give consideration to the testimony referred to at the bottom of p. 6 of his report.

1207 Twenty-Fifth: The Court erred in not sustaining the twenty-third exception to the Master's finding, which is as follows:

The Master erred in his statement and shows that he has not considered this matter, by referring to the report of George F. Hitchcock. (P. 7 of report.)

Twenty-Sixth: The Court erred in not sustaining the twenty-fourth exception to the Master's finding, which is as follows:

The Master erred in overruling Judge Clark's findings in the case of Dowagiac Manufacturing Company vs. The McSherry Manufacturing Company. (P. 7 of his report.)

Twenty-Seventh: The Court erred in not sustaining the twenty-fifth exception to the Master's finding, which is as follows:

The Master erred in regarding the findings of George F. Hitchcock, Special Master in the case of Dowagiac Manufacturing Company vs. the Minnesota Moline Plow Company, a precedent for his findings herein, while he specifically overrules the findings of a Federal Judge in an adjudicated case. This is absurd, because it is clear, from the language of the Master, and he can find no circumstance that will warrant him in finding in any particular and in any way for the complainant.

Twenty-Eighth: The Court erred in not sustaining the twenty-sixth exception to the Master's finding, which is as follows:

The Master erred in not taking into consideration for the purpose of apportionment, the figures submitted. He ignored the evidence on unpatented hoe drills, which would afford a standard of comparison had the Master desired to avail himself of such a standard, the testimony in the case covering all facts necessary for a consideration of this case from any legal standpoint conceived of or discussed, either in the briefs of Complainant or of defendants.

1208 Twenty-ninth: The Court erred in not sustaining the twenty-seventh exception to the Master's finding, which is as follows:

The Master erred in taking into consideration, or insisting that the Complainant should take into consideration, the patented coil structure, spring pressure shoe drills, as indicated on pp. 16 and 17 of his report.

Thirtieth: The Court erred in not sustaining the twenty-eighth exception to the Master's finding, which is as follows:

The Master erred in refusing to hold that the territory designated as "The Northwest" was limited as well as local when the entire wheat-growing area of the world is taken into consideration, or, for that matter, the entire wheat-growing area of the United States.

Thirty-First: The Court erred in not sustaining the twenty-ninth exception to the Master's finding, which is as follows:

The Master erred in taking into consideration in this matter the Van Brunt Drill, the Havanna Drill, the Superior Drill, the Tiger Drill, or any of the other shoe drills which he has chosen to consider, because by the record it appears that they are all patented drills.

Thirty-Second: The Court erred in not sustaining the thirtieth exception to the Master's finding, which is as follows:

The Master erred in holding that the Complainant's Company could not supply the demand for these grain drills, because it is the undisputed testimony in the case that they could. The testimony would show that they could not only supply the demand for the infringing drills, but they could have supplied the demand for every grain drill needed in this territory, to which reference has been made as "The Northwest". The Master nor anyone else has the right to disregard the undisputed statements in the evidence of Mr. Hoyt and Mr. Fowle as to the capacity of the Dowagiac plant.

1209 Thirty-third: The Court erred in not sustaining the thirty-first exception to the Master's finding, which is as follows:

The Master should have held that the complainant had complied with the rule of law and had shown that it was entitled to recover the entire profits and the entire damages, and that the proper measure for such damages was what the complainant would have made had it made the sales made by the defendant and that certainly the complainant would have made an equal number or more.

Thirty-fourth: The Court erred in not sustaining the thirty-second exception to the Master's finding, which is as follows:

The Master erred in holding that patented drills, which the jobber could have purchased, were proper to be taken into consideration in the estimate of the profits and damages in this case, because certainly the jobber handling the goods is just as culpable as the manufacturer, and the fact that he obtained the goods from the manufacturer had nothing to do with his liability. He sold the goods and he trespassed in that way. All persons taking part in the commission of a wrong are equally liable; all who join in a tort are equally liable. This principle is believed to be elementary.

Thirty-fifth: The Court erred in not sustaining the thirty-third exception to the Master's finding, which is as follows:

The Master erred in not taking into consideration that the Dowagiac shoe drill substantially superseded other shoe and grain drills in this territory, making use of merely coil spring pressure devices, and superseded the same except as they were provided with patented features which enabled them to be used in the territory by overcoming the obstacles.

Thirty-sixth: The Court erred in not sustaining the thirty fourth exception to the Master's finding, which is as follows:

The Master erred in holding that the defendants were not wilful trespassers and infringers, considering that they have been conducting this trespassing and infringing since the beginning of this suit, for they certainly had abundant notice, and certainly it appears that from the time they began their trespass, the only thing that impelled the defendants to handle the particular style of grain drill was because it was "so like the Dowagiac grain drill, so popular here," meaning that the Dowagiac shoe drill was the popular drill in the terri-
1210 tory.

Thirty-seventh: The Court erred in not sustaining the thirty-fifth exception to the Master's finding, which is as follows:

The Master erred in not taking into consideration the history of the various shoe drills referred to in his report.

Thirty-eighth: The Court erred in not sustaining the thirty-sixth exception to the Master's finding, which is as follows:

The Master erred in not giving proper weight and consideration to the disinterested testimony of Mr. Orren C. Gregg, which he considers at pp. 44 and 45 of his report, and not taking into consideration the whole of his testimony, the quotations from the same being garbled and unfair, and misleading and designed to give an impression contrary to the full testimony by him. Mr. Gregg was a witness who had knowledge of the entire territory, was a disinterested party and a man of high standing in the agricultural community, and he states that until the advent of the Dowagiac Drill, there was continual agitation at the Farmers' Institutes, wherever he went, about the seeding problem and that the agitation did not absolutely cease until the coming of the Dowagiac Drill, which solved the problem, putting the broad cast seeders and the Havana Drills to the rear and substantially out of use.

Thirty-ninth: The Court erred in not sustaining the thirty-seventh exception to the Master's finding, which is as follows:

The Master erred in holding that there had been no evidenc offered by which an apportionment could be made betwee patented and unpatented features in this case, because th costs and profits were figured on an unpatented hoe dri especially so that the same could be compared with the paten ed shoe drill, and this the Master has absolutely and entirel ignored and he certainly should have taken it into consider ation had he felt that an apportionment was necessary, b cause absolutely every unpatented feature appeared in th hoe drill, but, it is however contended, that, as the hoe dri could not be used in the territory, it was unnecessary to a portion because there were no unpatented drills in use in th territory.

Fortieth: The Court erred in not sustaining the thirty-eigh exception to the Master's finding, which is as follows:

The Master erred in taking into consideration patented dri and insisting that they had anything to do with this case i view of the decision in Turrill vs. Railroad Company, 20 Fe 912, which case is specially approved by the Supreme Cou of the United States.

1211 Forty-first: The Court erred in not sustaining th thirty-ninth exception to the Master's finding, which as follows:

The Master erred in not submitting a trial report to Cou sel so that the course pursued by him might have been tho oughly and carefully reviewed.

Forty-second: The Court erred in not sustaining th fortieth exception to the Master's finding, which is as follow

The Master erred in his finding of the facts in the cas his findings being substantially contrary to the evidence in a material particulars.

Forty-third: The Court erred in not sustaining the fort first exception to the Master's finding, which is as follows:

The Master erred in the application of the rule of law t the facts in the case.

Forty-seventh: The Court erred in its conclusions and fin ings as to the scope of the invention of the patent in suit.

Forty-eighth: The Court erred in not finding that the ev dence showed that the entire salability or market value of th infringing grain drills was due to the patented improvemen appearing in the patent in suit.

1212 Forty-ninth: The Court erred in finding that the profits on the infringing grain drills should be apportioned between the several parts making up the entire structure.

Fiftieth: The Court erred in not finding that a grain drill structure embodying the features of the infringing grain drill and not embodying the patented structure could be manufactured and sold at a profit.

Fifty-first: The Court erred in finding that the defendants' profits were derived from the entire structure and were not due to "subordinate improvements of the complainant's invention."

Fifty-second: The Court erred in holding that the complainant could not furnish substantial evidence as to its damages by reason of the infringement.

Fifty-third: The Court erred in not finding that the complainant had furnished a proper standard of comparison and proper figures of comparison, to-wit,—the hoe drill and the figures in regard thereto, and that the evidence shows that such drill is the only unpatented structure open to the public.

Fifty-fourth: The Court erred in not holding that the burden was upon the defendant to show, what, if any, parts of the improvements and advantages of the defendants' grain drills were due to patented improvements other than the improvements of the patent in suit.

Fifty-fifth: The Court erred in not following substantially the same rules as to finding of profits as were followed in the McSherry case.

Fifty-sixth: The Court erred in not finding that the complainant by reliable testimony had shown that the sales of the defendants' infringing drills were a diversion of its sales.

Fifty-seventh: The Court erred in not taking into consideration the fact that all of the drills directly competing with the defendants' in the manufacture and sale of their infringing drills were infringing structures or else independently patented structures.

1213 Fifty-eighth: The Court erred in not holding that the proofs of the complainant were sufficient to show the loss of sales and loss of business by complainant on account of the infringing drills sold by the defendant.

Fifty-ninth: The Court erred in holding that complainant must prove that the purchasers of defendants' infringing drills would not have purchased the drills of some other make

before complainant is entitled to recover damages, it being submitted that no proofs of this character are necessary unless it appears that some drill was in existence that would serve the purpose equally as well and was open to the public and in use.

Sixtieth: The Court erred in finding in effect that complainant must prove that purchasers of the infringing grain drills would not have purchased some other infringing structure or a Disk Drill, a Monitor, or a VanBrunt Drill, or other drill, all of which were independently patented.

Sixty-first: The Court erred in finding that the defendants had not wantonly and wilfully infringed the complainant's rights.

Sixty-second: The Court erred in not increasing the amount of damages to the complainant above the actual damages according to the United States Statute in such case made and provided.

Sixty-third: The Court erred in not referring the case back to the Master with directions that they make, a finding for complainant in the amount shown by the undisputed testimony.

Sixty-fourth: The Court erred in awarding costs to the defendant incurred under the reference before the Master and his report, and of the exceptions and the hearing thereon.

Sixty-fifth: The Court erred in awarding nominal damages only.

Wherefore, the said Dowagiac Manufacturing Company Complainant herein, prays that the said decree of the United States Circuit Court for the District of Minnesota, Fourth Division, be reversed as to the matters named, and that
1214 the said United States Circuit Court for the District of Minnesota, Fourth Division, be directed to reverse its decree, with such order as equity demands.

FRED L. CHAPPELL,
Solicitor for Complainant

Endorsed: Filed Oct. 7th, 1907. Henry D. Lang, Clerk By Geo. F. Hitchcock, Jr., Deputy.

1215 United States of America.

Circuit Court of the United States, District of Minnesota, Fourth Division.

I, Henry D. Lang, Clerk of said Circuit Court, do hereby certify and return to the Honorable, the United States Circuit

Court of Appeals, for the Eighth Circuit, that the foregoing, consisting of 16 pages, numbered consecutively from 1 to 16 inclusive, is a true and complete transcript of the order of the United States Circuit Court of Appeals extending time for filing transcript, stipulation of counsel as to amendment of assignment of error, and amended assignments of error, in the case of Dowagiac Manufacturing Company against Ernest F. Smith and Luppo W. Zimmer, and of the whole thereof, as appears from the original records and files of said Court.

Seal
U. S. Circuit Court,
Fourth Division,
Dist. of Minnesota.

In Witness Whereof, I have hereunto set my hand, and affixed the seal of said Court, at Minneapolis, in the District of Minnesota, this 29th day of March, A. D. 1909.

HENRY D. LANG, Clerk.
By Geo. F. Hitchcock, Jr., Deputy.

No. 3042. No. 460. United States Circuit Court, District of Minnesota, Fourth Division. Dowagiac Mfg. Co., Appellant, vs. Ernest F. Smith & Luppo W. Zimmer, Defendant. Supplemental Return to Circuit Court of Appeals. Filed Mar. 30, 1909. John D. Jordan, Clerk.

1216 United States Circuit Court of Appeals, Eighth Circuit.

Dowagiac Manufacturing Company, Appellant,
No. 404. v. In Equity.
Minnesota Moline Plow Company and Thomas H. Martin, Appellees.

Stipulation.

It is hereby stipulated and agreed by and between the counsel hereto that the following patents may be regarded as having been introduced as exhibits in the Court below and that they may be considered as constituting a part of the transcript in this case:—

672,476, Edwards,
386,394, Fockler,
488,072, Howard,
297,961, Ashurst,
746,432, Ackerman,
412,808, Van Brunt,
429,320, Packham,
404,108, Patric et al.,
410,768, Rowell,
672,916, Rowell,
490,728, Van Brunt,
642,534, Sester,
446,230, Hoyt (Patent in Suit)
411,141, Fowle,
442,118, Hoyt,
448,861, Hoyt,
492,802, Hoyt,
627,381, Bills,
634,460, Hoyt,
654,057, Fowle,
705,030, Brown,
669,664, Rowell,
461,292, Van Brunt,
676,593, Van Brunt,

Kalamazoo, Michigan,
May 12", 1909.

FRED L. CHAPPELL,
Solicitor for Appellant.

Chicago, Illinois,
May 18th, 1909.

THOMAS A. BANNING,
Solicitor for Appellee.

No. 3041. United States Circuit Court of Appeals, Eighth Circuit. In Equity. Dowagiac Mfg. Co., Appellant, v. Minnesota-Moline Plow Co., et al., Appellees. Stipulation Filed May 19, 1909. John D. Jordan, Clerk. Chappell & Earl, Attorneys and Counsellors, Suite 37-44, Chase Block, Kalamazoo, Michigan.

1217 United States Circuit Court of Appeals, Eighth Circuit.

Dowagiac Manufacturing Company, Appellant,
v. In Equity.
Ernest F. Smith and Luppo W. Zimmer, Appellees.

Stipulation.

It is hereby stipulated and agreed by and between coun
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461,292, Van Brunt,
676,593, Van Brunt,

Kalamazoo, Michigan,
May 12, 1909.

FRED L. CHAPPELL,
Solicitor for Appella

Peoria, Illinois,
May 14th, 1909.

J. S. STARR,
Solicitor for Ap

No. 3042. United States Circuit Court of Appeals, Eigh
Circuit. In Equity. Dowagiac Mfg. Company, Appellant,
Smith & Zimmer, Appellees. Stipulation. Filed May 17, 190
John D. Jordan, Clerk. Chappell & Earl, Attorneys and Counsellor
Suite 37-44, Chase Block, Kalamazoo, Michigan.

1175

(No Model.) 2 Sheets—Sheet 1.

W. F. HOYT.

GRAIN DRILL.

No. 446,230 Patented Feb. 10, 1891.

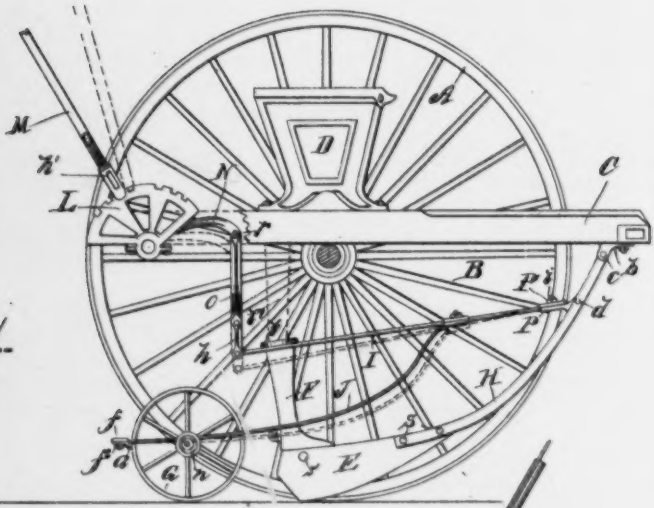


Fig. 1.

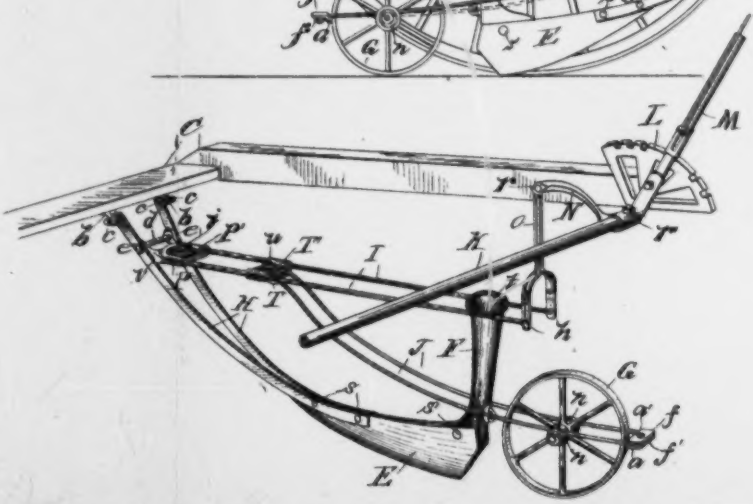


Fig. 2.

(No Model.)

2 Sheets—Sheet 2.

W. F. HOYT.

GRAIN DRILL.

No. 446,230. Patented Feb. 10, 1891.

Fig. 3.

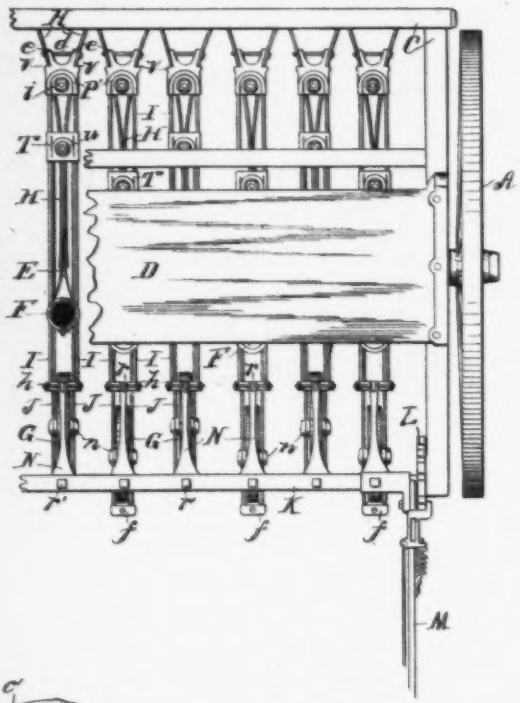


Fig. 4.

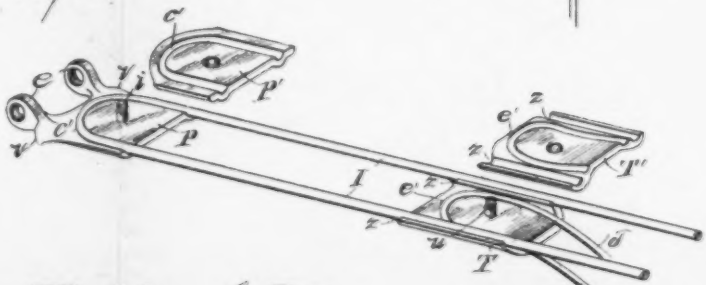
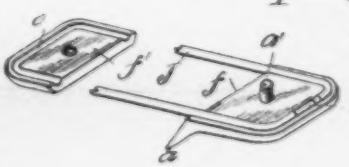


Fig. 5.



WITNESSES

R. B. Wheeler

E. J. Wheeler

INVENTOR

W. F. Hoyt

by Rascoe B. Wheeler

Attorney.

UNITED STATES PATENT OFFICE.

WILL F. HOYT, OF DOWAGIAC, MICHIGAN.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 446,230, dated February 10, 1891.

Application filed October 16, 1890. Serial No. 368,348. (No model.)

To all whom it may concern:

Be it known that I, WILL F. HOYT, a citizen of the United States, residing at Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Grain-Drills; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in grain-drills commonly known as "shoe-drills;" and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide an independent spring-pressure for each of the shoes and covering-wheels of the drill, whereby the work of the drill is rendered efficient in uneven ground, and to provide means whereby said shoes and covering-wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of my improved drill with one of the transporting-wheels removed, showing frame broken away. Fig. 2 is a perspective view of a portion of the drill embodying my improved features. Fig. 3 is a plan view of a portion of the machine. Fig. 4 is an enlarged perspective of the clamping-plates detached, between which the spring pressure-rods of the shoe and covering-wheel are adapted to be secured. Fig. 5 is a perspective view of the scraper plate and cap, adapted to be secured to the rear ends of the spring-pressure rods of the covering-wheels.

Referring to the letters of reference, A indicates the transporting-wheels of the drill; B, the axle connecting said wheels; C, the frame of the drill, and D the seed-box thereof, all of which parts are common.

E indicates the runners or shoes of the drill, to the forward end of which are riveted, as shown at *s* in Figs. 1 and 2, the curved draft-rods H. Said rods curve upwardly and are slightly diverging, their upper ends being pivotally mounted on the trunnions *c* of the plates *b*, secured to the under face of the front edge of the frame C, as clearly shown in Figs. 1 and 2.

F indicates the feed tube or hopper, secured at its lower end to the heel of the shoe E, as shown at *s'*, and through which the grain is conveyed to the furrow in the ground formed by said shoe.

I indicates the spring pressure-rods of the shoe. Said rods are formed of one piece bent to a loop at their forward ends, as shown in Fig. 4, and extending rearwardly on each side of the hopper-F. The rear ends thereof are pivotally attached to the bifurcated end *h* of the arm O, as shown in Fig. 2, the upper end of said arm being pivoted at *r* to the free or outer end of the swinging arm N, the opposite end of the arm N being permanently secured at *r'* to the rock-shaft K, which extends along the rear edge of the machine-frame, and which is actuated by the lever M, attached thereto. The forward looped end of the rods I is secured between the clamping-plates P P', which are provided with the grooves *c'* (see Fig. 4) in their adjacent faces, that receive said rods, and in which they are firmly held by the bolt *i*, passing through said plates, which draws them tightly together upon said rods. The under plate P of said clamping-plates is provided with the lugs *e*, having eyes therein that are adapted to receive the bolt *d*, which passes loosely therethrough. The ends of said bolt pass through the adjacent faces of the draft-rods H, and are firmly secured therein, as shown in Figs. 2 and 3, by which means the forward ends of the pressure-rods I are pivotally coupled to the draft-rods. The lugs *e* of the plate P, extending between the draft-rods H, keep the upper ends of said rods spread and in contact with the trunnions *c* of the supporting-plates *b*. The plate P is also provided with the horizontal shoulders *v* on each side thereof, that are adapted to engage the upper edge of the rods H, for purposes hereinafter described.

J indicates the draft and spring pressure-rods of the covering-wheels G, which curve upwardly at their forward ends and are secured between the plates T T', mounted on

the rods II, as shown in Fig. 2. The adjacent faces of the plates T T' are provided with the grooves *e'* and *z*. (See Fig. 4.) The grooves *e'* receive the looped end of the rods J and the grooves *z* receive the parallel rods I. Said plates are provided with the bolt *u*, passing therethrough, by means of which they may be securely clamped upon said rods, as shown in Fig. 2, thus firmly securing the plates T T' to the rods I, and the looped end of the rods J between said plates. The rods J extend rearwardly on each side of the hopper F, and pass through and are secured in the hub *n* of the covering-wheel G. By this means said wheel is guided so as to travel directly in the furrow made by the shoe E in which the seed is deposited. The rods J extend slightly rearward of the wheel G, and are secured between the plates *f f'*, that are provided with the grooves *o* in their adjacent faces, that receive the bent ends of said rods, as clearly shown in Fig. 5, said plates being clamped upon said rods by means of the bolt *a'* passing therethrough.

The under plate *f* is provided with a depending lip *a*, and the parts are so arranged that said lip acts as a scraper to free the periphery of the wheel G from dirt during the operation of the machine, as shown in Figs. 1 and 2.

The shoes and hoppers, with their draft-rods and covering-wheels, and the spring pressure-rods and their actuating-arm O and swinging arm N, attached to the rock-shaft K, are arranged consecutively throughout the machine, as shown in Fig. 3, and are adapted to be operated simultaneously by means of the lever M, attached to the shaft K, the grain being conveyed to the hopper F of the shoe from the seed-box D by means of a flexible hose *b'*. (Shown by dotted lines in Fig. 1.) It will now be apparent that by throwing the lever M forward the shaft K is rotated, carrying the outer end of the swinging arm N downward, which, being coupled to the arm O, forces said arm down and depresses the rear ends of the spring-rods I, coupled to the bifurcated end *h* thereof, the shoulders *v* of the plate P, to which the forward ends of the rods I are attached, bearing upon the edge of the rods H. As the rear ends of the rods I are depressed the pressure thereon is conveyed through the rods I to the shoe E. At the same time the rods I are depressed by the action above described, the forward ends of the rods J are carried down, throwing an increased pressure on the wheel G, which position of the pressure-rods, lever M, and arm N, is clearly shown by dotted lines in Fig. 1. By this arrangement it is evident that the pressure on the shoe and covering-wheel is a spring-pressure, and may be regulated as desired, enabling a heavy pressure to be applied when the ground is hard or a light pressure when it is soft and yielding.

The arrangement of transmitting the pressure applied to the rods I to the shoe E through the medium of the shoulders *v* of the plate P, bearing upon the draft-rods H of said shoe, enables the shoe to drop into a depression in the surface in advance of the covering wheel G, and prevents said wheel from raising the shoe from the ground when riding over an obstruction, thereby insuring a continuous furrow, which would not be the case were the connection rigid between the rods I and H.

When it is desired to raise the shoes and covering-wheels in transporting the machine from one field to another, the lever M is thrown to the rear, rotating the shaft K and raising the swinging arm N, thereby drawing upward on the arm O and raising the rods I, which engage with the annular flange *t* at the upper end of the hopper F, raising said hopper and shoe, as shown in Fig. 2. The rods J of the covering-wheel G being secured to the rods I, said wheel is also raised by the same operation. Thus it will be seen that by throwing the lever M to the rear the shoes and covering-wheels are simultaneously raised from the ground, and by means of the segment-rack L, that receives the locking-bolt *h'* of the lever M, said lever may be secured in any desired position. It will also be seen that the manner of mounting the plates T T' upon the rods I permits of their longitudinal adjustment thereon, and the forward ends of the rods J of the covering-wheel G being secured between said plates, the distance between said wheel and the heel of the shoe may be increased or decreased by said adjustment, and that by sliding said plates rearwardly upon the rods I the forward movement of the lever M will throw a still greater pressure upon the wheel G.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the transporting-wheels and frame, the hopper, shoe, and draft-rods, the latter having a pivotal connection with the frame, the clamping-plates having a pivotal connection with the draft-rods, the spring-metal pressure-rods attached to said plates, said rods extending rearwardly of the hopper, the forked arm coupled to said rods, and means for raising and lowering said arm, substantially as specified.

2. In combination with a frame of a grain-drill, the hopper having a flange at the upper end, the shoe attached to the hopper, the curved draft-rods leading from the shoe and having a pivotal connection with the frame of the machine, a swinging head located between the upper ends of the draft-rods, spring-metal rods attached to the swinging head, said rods extending back of the hopper and below the flange thereof, said spring-metal rods being coupled to an arm, said arm having means for raising and lowering it, and means for locking the parts, for the purposes set forth.

3. In combination with the frame, hopper, shoe, and draft-rods, the plates pivotally at-

tached between the upper portions of said draft-rods, said plates having the horizontal shoulders, said shoulders bearing upon the draft-rods, the spring-metal rods attached to said plates and passing rearward of and on opposite faces of the hopper, and means for applying pressure to the rear ends of said spring-metal rods, for the purpose specified.

4. In a grain-drill, the combination of the wheels and main frame, of a hopper, shoe, and draft-rods having a pivotal connection with the frame, means for applying spring-pressure to the shoe, comprising the pressure-rods having their forward ends coupled to the draft-rods and a lever at the rear ends, a wheel traveling in the path of the shoe, and spring-metal rods coupling said wheel and its journal-bearing with the spring-pressure rods, substantially as indicated.

5. In a seed-drill having a hopper, shoe, and draft-rods, the hopper having a projection on its periphery at the top, plates pivoted between the upper end portions of the draft-rods, spring-metal rods clamped between said plates, means for raising and lowering the rear ends of said rods, and a wheel traveling in the rear of the shoe, said wheel having a spring-pressure connection with the spring-metal rods leading from the draft-rods.

6. In combination with the hopper, shoe, and draft-rods, the plates pivoted between the draft-rods, the spring I, clamped between said plates and extending rearward of the hopper, means for raising and lowering the rear ends of said spring, the wheel in the rear of the shoe, the plates T T', mounted on the spring I, and the doubled spring-metal rod J having one end clamped between the plates T T' and having on the opposite ends the scraper-plates *f f'*, for the purposes specified

In testimony whereof I affix my signature in presence of two witnesses.

WILL F. HOYT.

Witnesses:
C. A. PATTISON,
A. VANUXEM.

No. 672,476. Patented Apr. 23, 1901.

E. O. EDWARDS.

GRAIN DRILL.

(Application filed Oct. 3, 1900.)

(No Model.) 4 Sheets—Sheet 1.

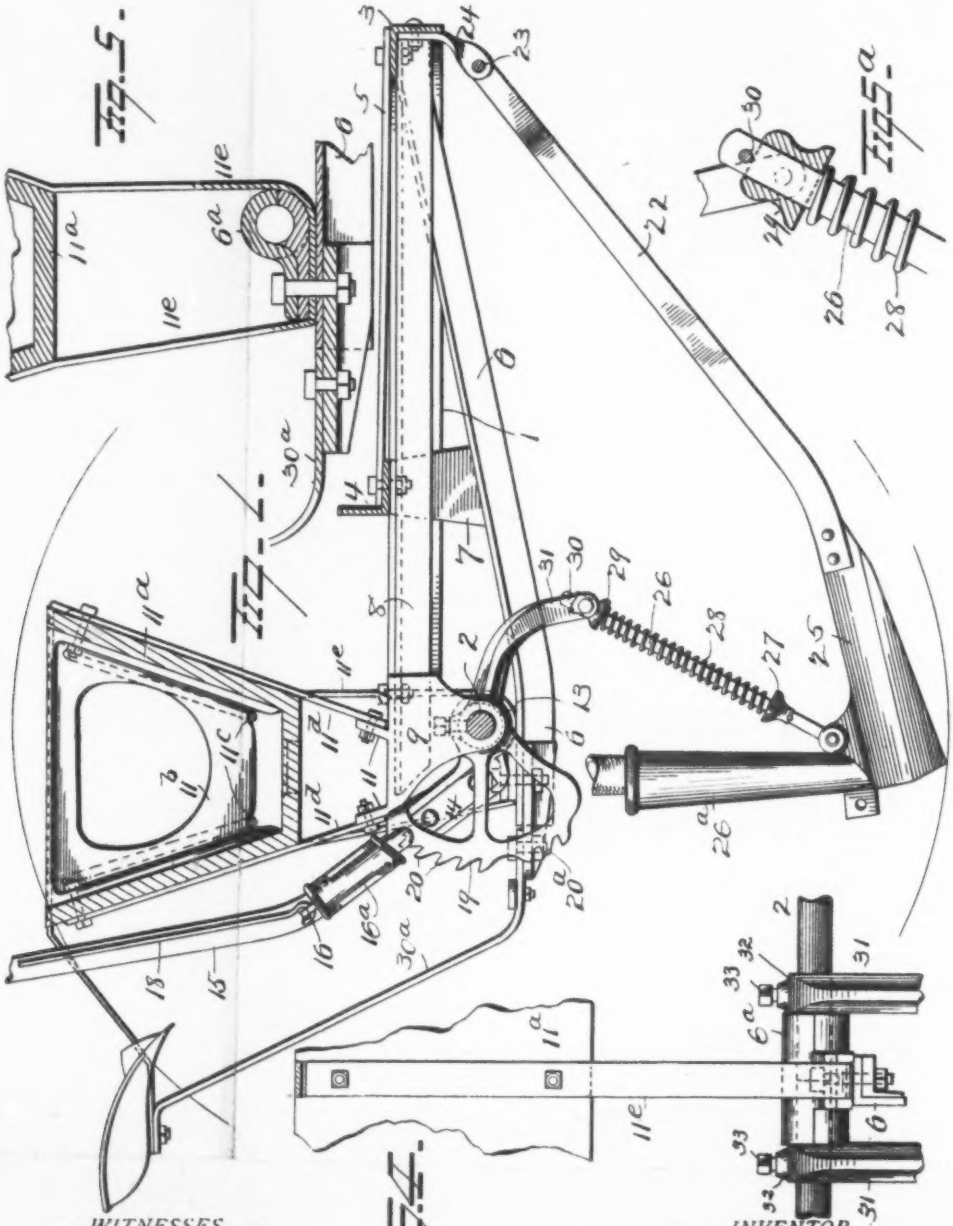


Fig. 5.

Fig. 5a.

Fig. 4.

WITNESSES

E. J. Nottingham

G. F. Downing

INVENTOR

E. O. Edwards

By A. A. Seymour

Attorney

No. 672,476. Patented Apr. 23, 1901.

E. O. EDWARDS.

GRAIN DRILL.

(Application filed Oct. 3, 1900.)

(No Model.) 4 Sheets—Sheet 2.

Fig. 2.

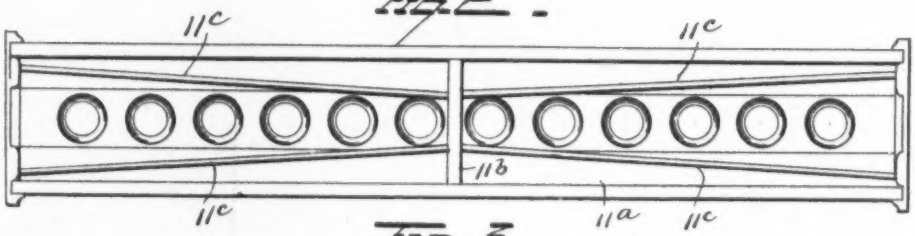
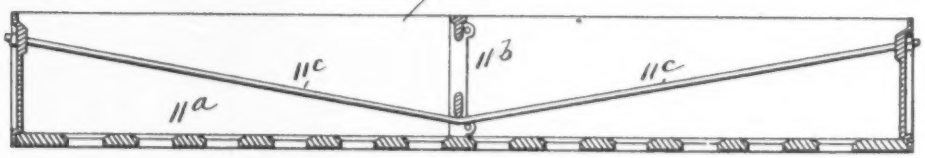


Fig. 3.



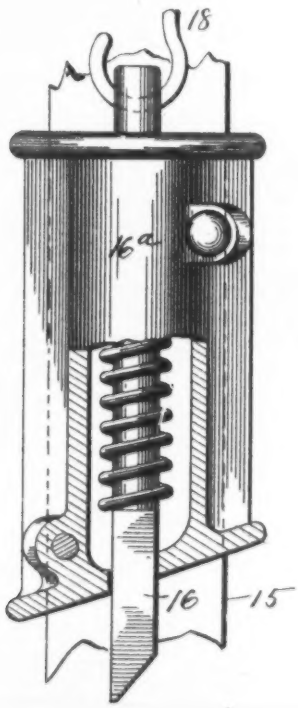


Fig. 5.

WITNESSES

E. J. Nottingham

G. F. Downing.

INVENTOR

E. O. Edwards

By H. A. Seymour

Attorney

No. 672,476. Patented Apr. 23, 1901.

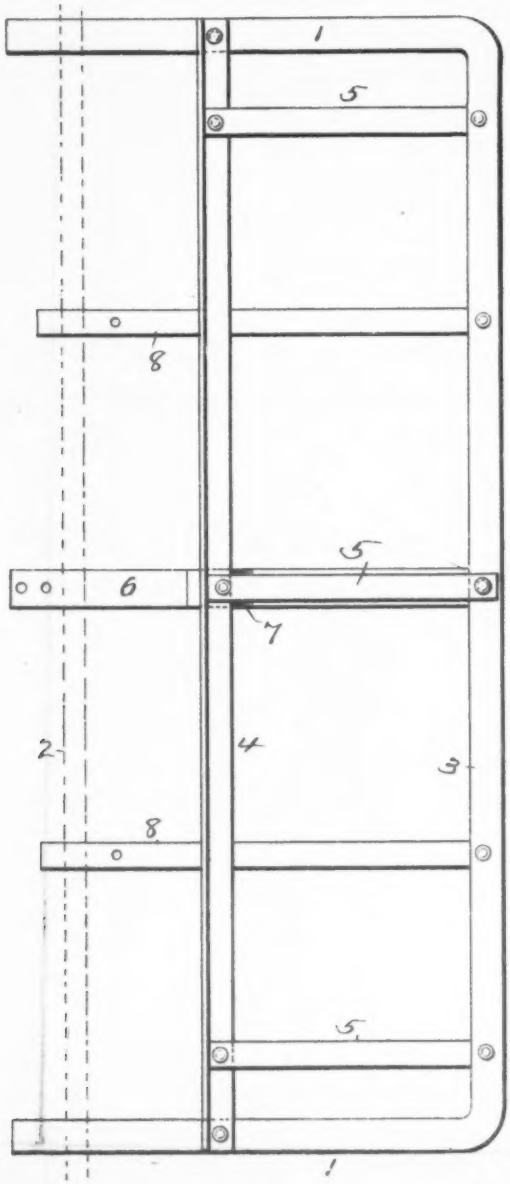
E. O. EDWARDS.

GRAIN DRILL.

(Application filed Oct. 3, 1900.)

(No Model.) 4 Sheets—Sheet 3.

Fig. 7.



WITNESSES
E. J. Nottingham
G. F. Downing

INVENTOR
E. O. Edwards
By H. A. Seymour
Attorney

No. 672,476.

Patented Apr. 23, 1901.

E. O. EDWARDS.

GRAIN DRILL.

(Application filed Oct. 3, 1900.)

(No Model.)

4 Sheets—Sheet 4.

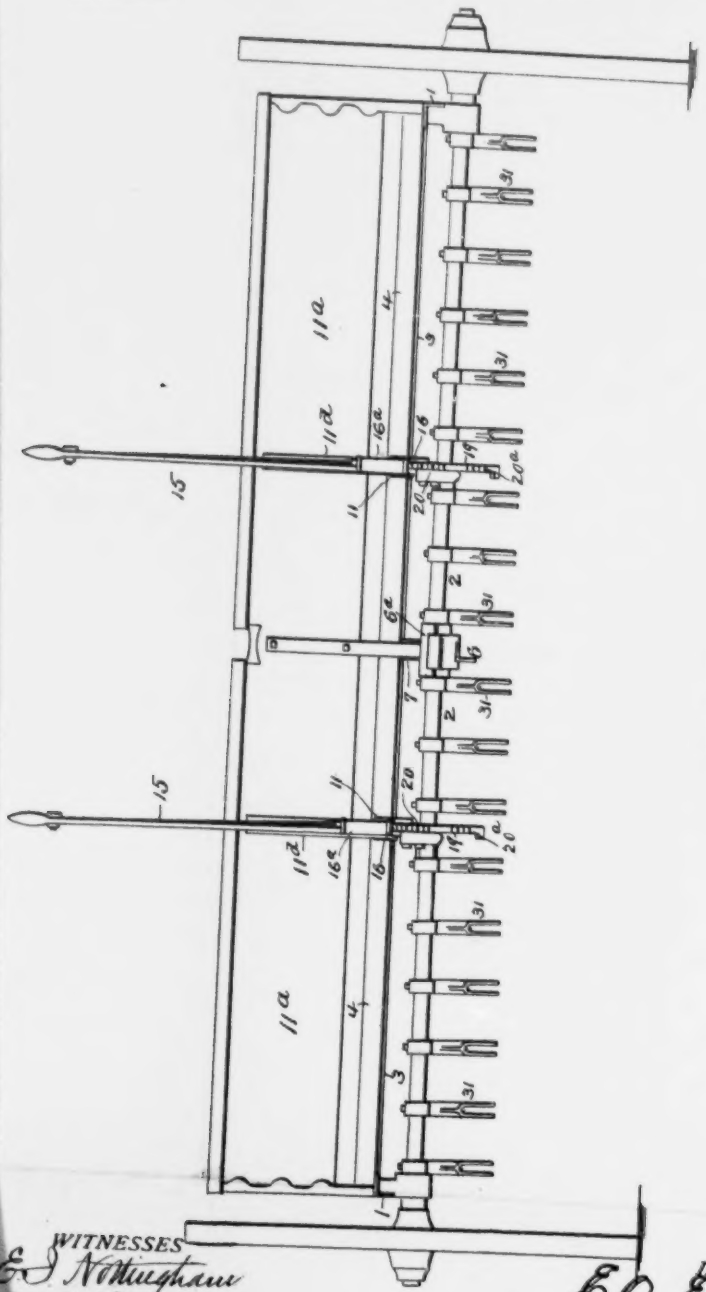


Fig. 4.

WITNESSES

E. J. Nottingham

G. F. Downing

INVENTOR

E. O. Edwards

By H. A. Seymour

Attorney

UNITED STATES PATENT OFFICE.

EUGENE OSBORNE EDWARDS, OF LA CROSSE, WISCONSIN, ASSIGNOR TO FOUNTAIN CITY DRILL COMPANY, OF SAME PLACE.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 672,476, dated April 23, 1901.

Application filed October 3, 1900. Serial No. 31,902. (No model.)

To all whom it may concern:

Be it known that I, EUGENE OSBORNE EDWARDS, of La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved seed-drill, one object of the invention being to provide a seed-drill with improved mechanism for raising, lowering, and regulating the spring-pressure of the furrow openers or shoes.

A further object is to provide a drill with improved supporting-frame which will be rigid and strong and maintain the operating mechanism of the drill always true.

A further object is to so construct a seed-drill employing a divided axle that the major portion of the weight of the seedbox will be disposed some distance laterally from the bearing of the inner ends of the axle-sections, and thus prevent the latter from sagging.

A further object is to provide a seed-drill which will be simple in construction, in which broken or injured parts can be readily removed and replaced, and which will be of the minimum draft when in use.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in section illustrating my improvements. Figs. 2 and 3 are views of the seedbox 11^a. Figs. 4, 5, 5^a, and 6 are views of details of construction. Fig. 7 is a plan view of the frame, and Fig. 8 is a rear elevation of a portion of the machine.

The frame of my improved drill comprises parallel longitudinal angle-irons 1, having bearings secured to them at their rear ends for the axle 2 and connected at their forward ends and between their ends by transverse angle-irons 3 and 4, respectively, and suitable metal braces 5 are provided between angle-irons 3 and 4 to strengthen the frame.

The axle 2 is made straight and in two sections when the machine is of any considerable width, and the inner adjacent ends of the axle-sections are supported in an elongated bearing 6^a on an angle-iron arm 6, secured at its forward end to the iron 3 and connected with iron 4 by block 7, so as to form a rigid bearing for the inner ends of the axle-sections. It will be seen that by making the axle in two sections the mechanism connected therewith can be operated independently, and thus greatly relieve the operator.

On each side of arm 6 and some distance laterally from said arm and central bearing 6^a and irons 1 are provided angle-iron arms or stubs 8, secured at their forward ends to front cross-iron 3, and have secured to their rear ends castings 9, having bearings for the reception of the axle-sections. Divergent lugs 11 project upwardly from castings 9 and bars or straps 11^c and 11^d connect the lugs with the seedbox 11^a, which latter is supported at its ends by straps connecting it to the irons 1 and connected between its ends by straps to iron 6.

The seedbox 11^a is provided with a metal brace 11^b between its ends, and truss-rods 11^c connect the brace with the ends of the box, so as to make the same absolutely rigid, and as the box is secured to both castings 9 it will serve as a rigid support therefor to prevent sagging.

A collar 13 is secured on each axle-section beside the casting 9 and is provided with an arm 14, to which a lever 15 is secured by bolts and nuts, as shown. A downwardly spring-pressed detent 16 is mounted in a housing 16^a on one side of the lever 15 and made with a beveled tooth at its end and operated by a hand-lever at the free end of the lever 15, connected with the detent by a rod 18. The detent 16^c is adapted to engage a segment 19 on the casting 9, provided throughout the greater portion of its length with inclined ratchet-teeth 20 to permit the easy adjustment of the beveled tooth on the detent and with square teeth 20^a at one end of the segment to more securely lock the detent to the segment. The lower portion of the segment may be made with inclined notches for the detent and with flat edge between the notches. It will thus

be seen that the detent 16 serves to lock the lever and casting together, and as the latter is secured to the frame it will hold the lever in any position to which it may be moved.

Drag-bars 22 are connected to the forward part of the frame by a rod 23, which latter is passed through perforated lugs 24, depending from iron 3, and through alined holes in the forward bifurcated ends of the drag-bars. Shoes 25, carrying boots 26ª to receive seed from the seedbox, are secured in any approved manner to the drag-bars. Rods 26 are pivotally connected at their lower ends to the shoes 25 and have disposed thereon near their lower ends collars 27, and coiled springs 28 are mounted on the rods 26. The springs 28 rest at their lower ends on the collars 27 and bear at their upper ends against collars 29, loose on the rods.

Short arms 31, having bearing-sleeves 32 thereon for the reception of the axle, are secured to the axle at the angle desired by set-screws 33 and are bifurcated at their free ends and pivotally connected to collars 29, a pin 30 passing through the rod 26 above the collar 29, so that when the axle-sections are turned in one direction by levers 15 the arms 31 will force collars 29 downward on rods 26, and thus contract springs 28 and force the shoes into the ground, and so that when the axle-sections are turned in the reverse direction by the levers 15 the collars 29 will be raised until they strike pins 30 and a continued upward movement of the arms will raise the shoes from the ground.

The seat-support 30ª is secured to the arm 6, thus mounting the seat centrally between the levers 15.

The operation of my improvements is as follows: When the machine is to be placed in position for planting, the levers 15 are raised, thus revolving the axle-sections and turning arms 31 to contract springs 28, as above described, and forcing the shoes into the ground. The depth of planting can be regulated by the position of the levers. When the levers are lowered, the axle will be turned in the reverse direction and the shoes lifted from the ground. This operation of raising and lowering the shoes does not change the position of the frame in the slightest, and hence the only work required of the levers is that of adjusting the shoes.

It will also be seen that the axle-sections are not only supported at the meeting ends by the bearing 6ª, but are supported between their ends by the castings 9, hence preventing any possibility of their sagging under the weight of the machine and driver, whose seat will preferably be supported upon the central arm 6, as above explained.

Various slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a seed-drill, the combination with a frame and wheels, of a straight axle mounted in the hubs of the wheels and supported by the frame, crank-arms secured to the axle, shoes pivotally connected with the frame, rod and spring connections between said shoes and crank-arms, a segment secured to the frame and having a bearing for the axle, and a lever secured to the axle and having a latch or detent to engage the segment.

2. In a grain-drill, the combination with a frame, wheels and a straight axle mounted in the hubs of the wheels and extending through the frame, of an arm or stub projecting rearwardly from the frame, a toothed segment secured to the end of said arm or stub and having a bearing for the axle, a lever fixed to the axle and adapted to be locked to the toothed segment, hinged shoes, crank-arms on the axle and yielding connections between the crank-arms and shoes.

3. In a drill, the combination with a frame and wheels, of an axle mounted in said wheels, a toothed segment secured to the frame between the center and end thereof and having a bearing for the axle, a lever secured to the axle and adapted to engage the segment and furrow-openers connected with the axle.

4. In a drill, the combination with a frame and wheels, of a divided axle, segments secured to the frame intermediate of the ends of the respective axle-sections and said segments having bearings for the axle-sections, levers secured to the axle-sections and adapted to engage the segments, and furrow-openers connected with the axle-sections.

5. In a seed-drill, the combination with wheels and axle-sections mounted in the hubs of the wheels, of a frame mounted at its ends on said axle-sections, an arm projecting rearwardly from the center of the frame, a bearing secured to said arm for the inner ends of the axle-sections, a seedbox secured on the frame and means secured to the latter supporting the axle-sections a considerable distance laterally from said central bearing.

6. In a seed-drill, the combination with a frame, wheels and axle-sections mounted in the hubs of the wheels, of a central arm projecting from the frame, bearing for the inner ends of the axle-sections secured to said arm, castings secured to the frame and having bearings for the axle-sections some distance laterally from the centrally-located bearing, lugs on said castings and a seedbox supported on the frame and connected to said lugs.

7. In a drill, the combination of a rigid frame, independent axle-sections supported

at their outer ends in wheels, a bearing rigidly connected to the rear of said frame and supporting the inner ends of both of said axle-sections, bearings for the center of the axle-sections rigidly secured to the frame, furrow-openers and means connected with the axle-sections for causing the furrow-openers to be raised or lowered independently of the frame when the axle is revolved.

8. In a drill, the combination of an axle and a rigid frame mounted thereon, a bearing for said axle, a toothed segment on said bearing, a lever secured to the axle, a detent on the lever adapted to lock the same and segment together, furrow-openers pivotally connected to the frame, arms rigidly secured to the axle, and rods connecting the free ends of the arms and furrow-openers so that when the axle is revolved by the lever the furrow-openers will be raised or lowered.

9. In a drill, the combination with a frame and an axle, of a casting secured to said frame and having a bearing for the axle, lugs on said casting connected to the seedbox, a segment on said casting having inclined ratchet-teeth thereon throughout the greater portion of its length and square straight teeth at one end of the segment, a lever secured to the axle, a detent on the lever having a beveled tooth thereon adapted to lock it and the segment together, furrow-openers, and means connecting the axle and furrow-openers in such manner that when the axle is turned by the lever the furrow-openers will be raised or lowered.

10. In a grain-drill, the combination with a frame and a seedbox, an axle or shaft and furrow-openers, of a toothed segment secured to the frame and to the seedbox, and having a bearing for the axle or shaft, a lever secured to the axle or shaft and having a latch to slide over and engage said ratchet-teeth when the lever is raised, arms secured to the axle or shaft and connections between said arms and the furrow-openers.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EUGENE OSBORNE EDWARDS.

Witnesses:

F. E. MARSH,

S. MARTINDALE, Jr.

(No Model.)

5 Sheets—Sheet 1.

C. FOCKLER.

GRAIN DRILL.

No. 386,394.

Patented July 17, 1888.

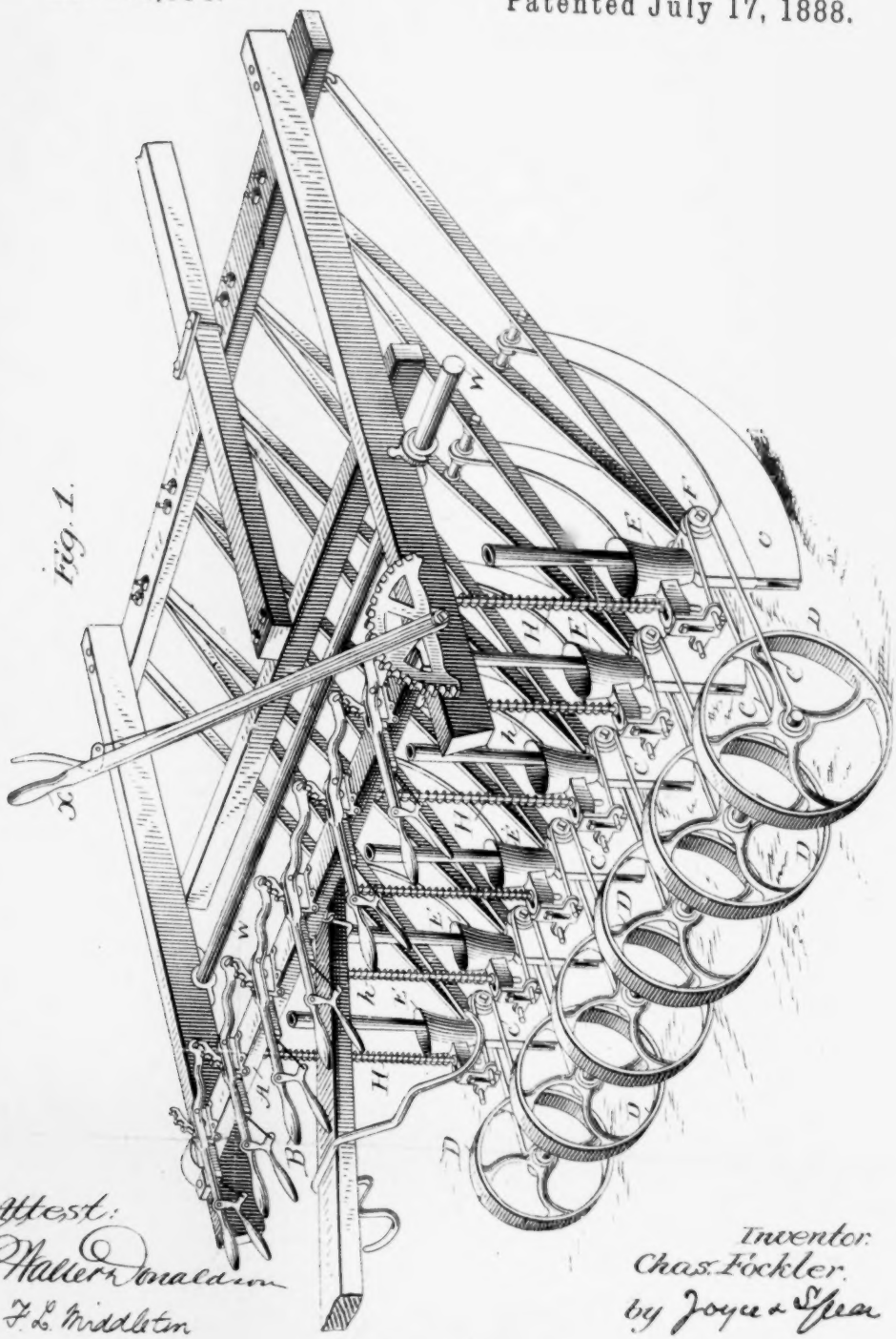


fig. 1.

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5 Sheets—Sheet 2.

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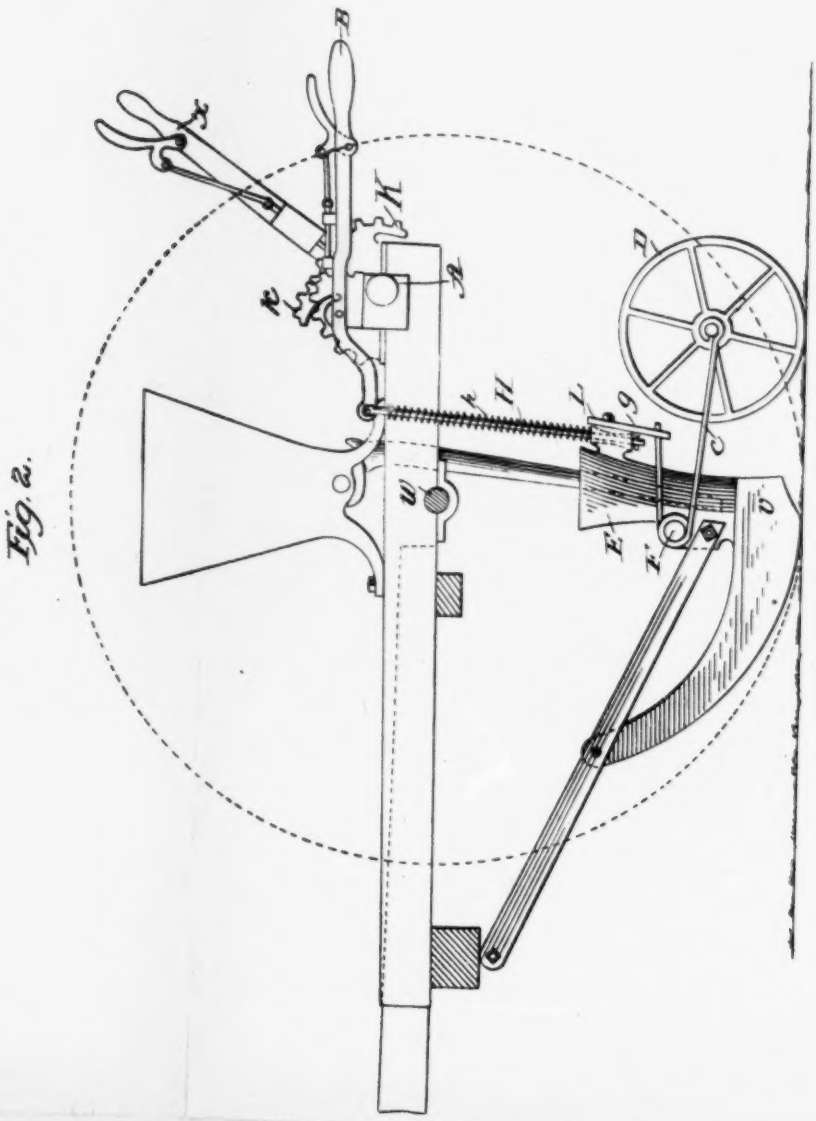


Fig. 2.

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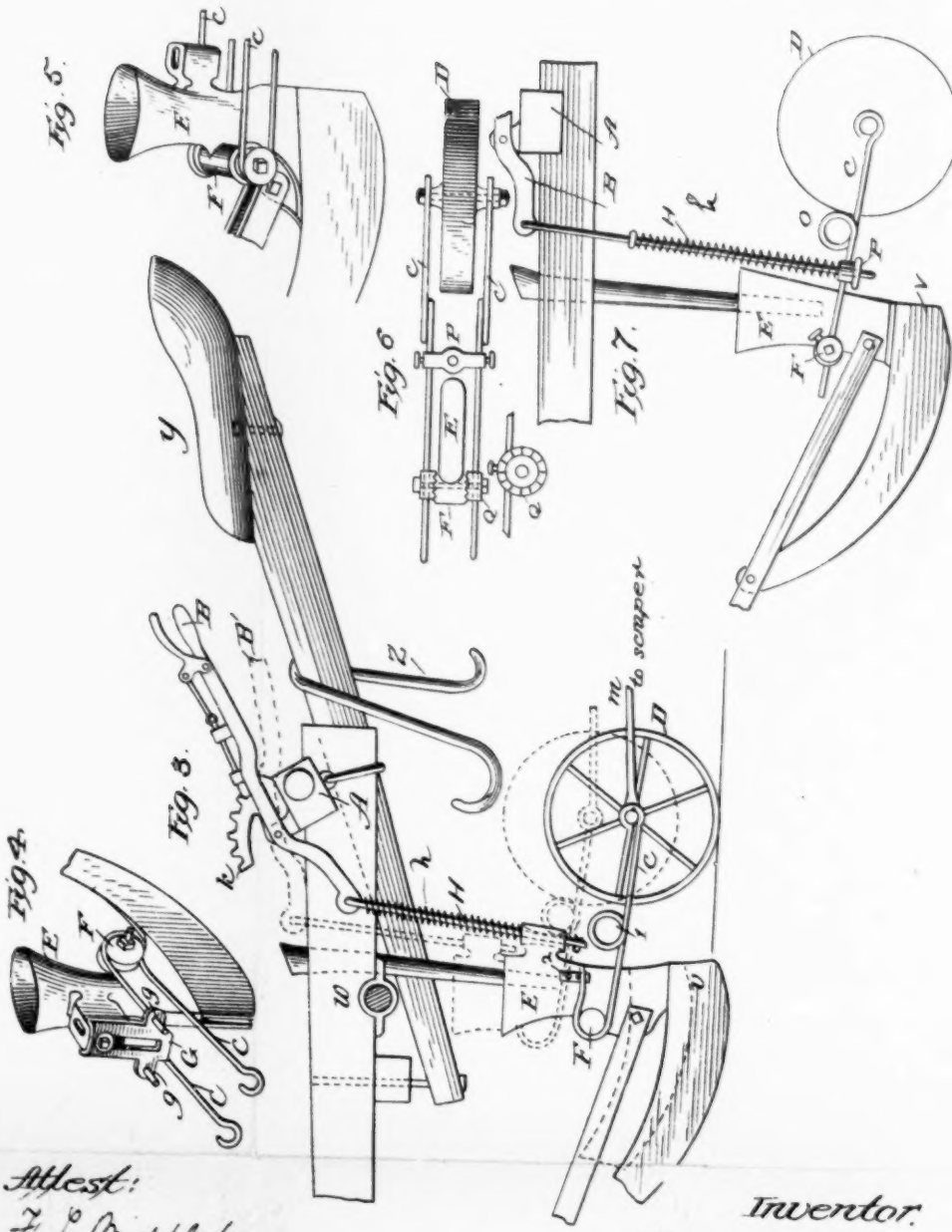
5 Sheets—Sheet 3.

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5 Sheets—Sheet 4

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No. 386,394.

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Fig. 8.

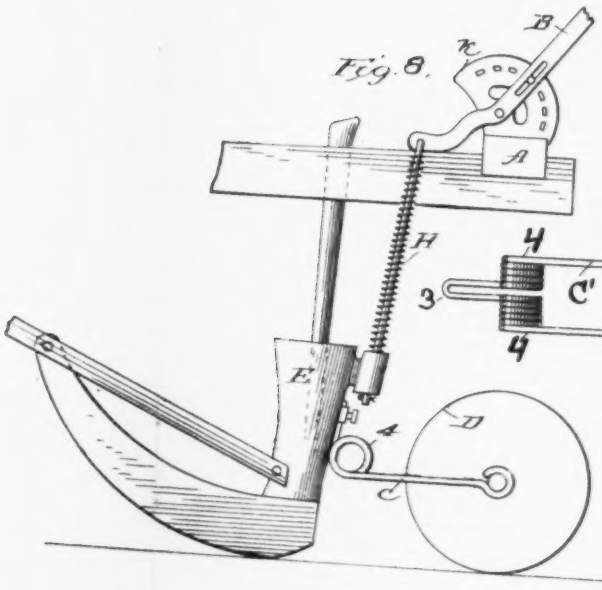
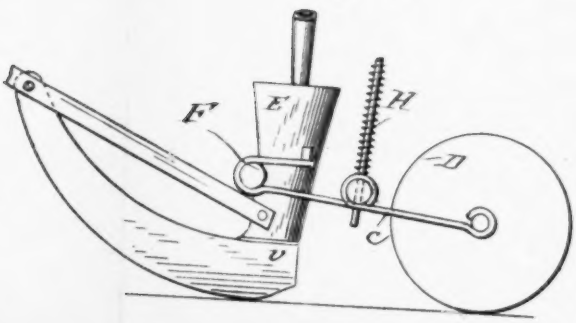


Fig. 8a.

Fig. 9.



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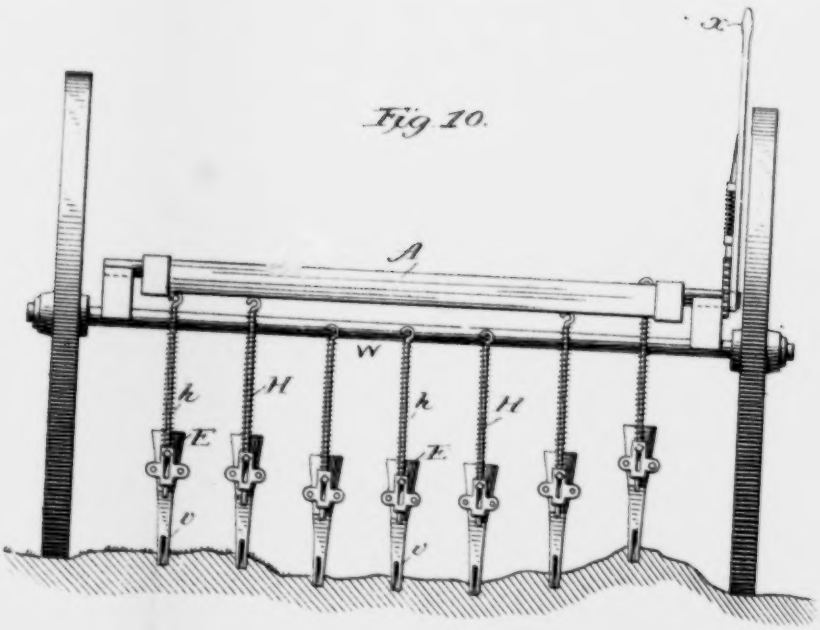
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GRAIN DRILL.

No. 386,394.

Patented July 17, 1888.

Fig 10.



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UNITED STATES PATENT OFFICE.

CHARLES FOCKLER, OF EAST DUBUQUE, ILLINOIS.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 386,394, dated July 17, 1888.

Application filed June 8, 1885. Serial No. 167,942. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FOCKLER, a citizen of the United States, residing in East Dubuque, Jo Daviess county, State of Illinois, have invented a new and useful Improvement in Grain-Drills, of which the accompanying drawings are a representation thereof.

My invention relates to grain-drills, principally of that class known as "shoe" or "runner" drills.

The first object sought is to provide means whereby the shoes may all be lifted or depressed together, or any one may be lifted or depressed without changing the position of the others, and thereby the machine may be made to adapt itself to inequalities of the ground.

The second object sought is to connect the following wheels with the runners or shoes by spring-connections, and for convenience and simplicity of construction to make the spring serve also as a traction-bar for the wheel, whereby the wheel as it is drawn along is also capable of passing obstructions and returning through the force of the spring to its proper path.

In connection with the above are subordinate objects relating to the details of construction, whereby simplicity and effective working are secured.

In the accompanying drawings, Figure 1 represents a perspective view of my improved seeder. Fig. 2 is a longitudinal section showing some of the working parts in side elevation. Fig. 3 is a similar section showing the seat, changed position of the supporting-bar, and some modifications of details. Figs. 4 and 5 show details of construction. Fig. 6 shows a plan view of the device for connecting the wheel to the shoe. Fig. 7 shows the same in side elevation. Fig. 8 shows a modification of Fig. 7. Fig. 8ª shows a modification of Fig. 7. Fig. 9 shows also a modified form of the spring connecting-bar. Fig. 10 is a rear elevation of a part of the machine, showing the shoes on uneven ground.

The frame-work of my improved seeder is of ordinary construction, and is supported upon an axle, *a*. (Shown in Fig. 1 without the wheels.) On the frame in rear of the axle is a main lifting-bar, A, pivoted on the side pieces of the frame, and having a hand-lever, *x*, fixed thereto, so that the lifting-bar may be rocked by the movement of the lever. Attached to the frame by the side of the lever is a segment, and the lever has an ordinary locking-bolt, so that it may be held upon the segment in any required position, and thus hold the lifting-bar to raise and lower the runners.

Mounted upon the lifting-bar are levers B B. These levers are pivoted to casting K, which are bolted to the upper surface of the bar A and serve as a pivotal bearing for the levers, while the upper part of the casting is formed into a segment the teeth of which engage with the pawls of the levers B and hold said levers in any desired position.

The handles of the levers project to the rear, and the front ends of the levers are connected by rods H to the shoes or runners V, so that any given runner may be raised by the lever B to any desired height and be held in that position without regard to the other runners. The rods are connected to the shoes by means of a lug on the fluke E, which lug is provided with a vertical hole flared above and below, and the rod passes through the hole and is held by the key below. This allows the runner to rise on the rod, but does not permit it to descend farther beyond the position than the rod is set. On the rod is a coiled spring, *h*, the lower end of which bears against the upper face of the lug, while the upper end bears against the upper end of the lever, and the tension of the spring is made to give the desired amount of pressure on the runner to hold it to its work.

The different positions of the main lifting-bar A are illustrated in Figs. 2 and 3. In Fig. 3 the bar is shown in dotted lines in position to hold the runners which are lifted out of the ground. In this position the bar is locked to the pawl or bolt on the lever X. In this figure, in full lines, the main lifting-bar A is tipped forward, so that the castings or brackets *k*, which support the levers B, are tipped forward, thus lowering all the levers B the same given distance and dropping to that extent the runners. The different positions of the levers B are illustrated in Fig. 3, where the lever B is in position to allow its runners

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to enter the ground on one level, while the lever marked B' in the drawings is raised to correspond to the inequalities of the ground. The other levers, B, may be set in the same way, in order to adjust the shoes to inequalities of the ground, and may be moved independently of the bar A, while the bar A serves to lift all simultaneously without respect to their independent positions.

It will be observed, as shown in Fig. 3, that the seat Y is supported on the bracket just in rear of the levers B, as well as in rear of the levers X, so that the driver can manipulate any one or more of the levers, as he may see fit. At the same time each runner has an independent upward movement against the spring *h* on the rod H. A suitable foot-rest for the driver is shown at *z*. The shoes or runners V are connected to the forward part of the frame by suitable braces, as shown clearly in Fig. 1. The runners or shoes V are set with their rear ends directly under the axle, as shown clearly in Fig. 2. The result of this is that when they are forced into the ground by the mechanism shown there is no neck-pressure caused on the end of the tongue, as there would be if the rear line of the runner were set back of the axial. The pressure-wheel D, when heavy pressure is applied to the runners, will throw some weight on the necks of the horses, according to the hardness of the ground and the amount of leverage applied to the lifting-bar A; but as the driver's seat is shown in Fig. 3 as twice the distance back of the center of the following or pressure wheels D as those wheels are over the center of the main axis, the weight of the driver may counterbalance this pressure.

As above described, I have provided mechanism for controlling the motion of the runners to adapt them to inequalities—that is to say, to raise them in order to give a proper depth to the seed on higher surface, or to depress them for the same purpose in a hollow, or to trip over the obstructions. I have found it desirable to connect the pressure of the runners also by elastic connections, in order that the runners may have independent movement of their own, and not be held in line and in proper position by elastic force, and I have devised means for this purpose. These special means are shown slightly modified in various figures, all of which involve the same general principle of construction.

I have described the form first shown in Figs. 1 and 4. The wheels D are designed one for each runner. On each side of the wheel I provide a connecting-rod, C, made, preferably, of steel rods or wire. The rear end is coiled to embrace the axle of the wheel, and the front end is coiled around a stud, E, on the side of the fluke. The end of this wire is then carried back, as shown at *c*, and passes through a hole, *g*, on a casting, G, which is fixed, in this case, to the rear of the lug, heretofore described, on the fluke. It is fastened to this lug by means of a bolt passing through the casting, so that it may be vertically adjusted to give any desired amount of pressure upon the wheels. As shown in Figs. 1 and 4, there is one of these rods on each side of the wheels, and they form an elastic draw-bar for the wheels and allow them to spring in any direction, according to the requirements of their work; but in returning them to a position in line with the runners this spring may be variously moved. For example, it may have an intermediate coil, 1, as shown in Fig. 3, and may be connected at its free end to a casting, 2, on the side of the fluke; or the end may be attached to the casting on the rear surface of the fluke, as shown in Fig. 2. I prefer, however, to make the spring-rod, as shown at C', out of one piece bent at 3, and having two coils, 4 4. (Shown in Fig. 8ª.)

Another form is shown in Figs. 6 and 7, in which the front end of the rod C is straight, and is carried on each side and through a toothed nut, Q, by which it is attached adjustably to the lug F on the fluke. In this case the rod has an intermediate coil. I have also shown the rod H connected directly to the connecting-rod C by means of a cross-bar, P, through which the rod H is passed.

I have also shown in Fig. 8 a modification of the segment which holds the lever B in position. This segment has holes made through its edge, instead of teeth, to receive a spring-catch, which in this case is simply a transverse bolt attached to a spring-lever, which is adapted to laterally spring from the segment to be moved, and then to spring toward the segment to connect and form connections therewith.

In all cases these spring-rods have their point of connection with the fluke and with the wheel in a direct line of draft, and the coils are in vertical planes in those lines, so that the wheel follows in the path of the fluke under all circumstances. In case it be pressed aside by any obstruction, the bars C would spring it back in line of draft in passing the obstruction. As shown in Fig. 3, the wheels are provided with a scraper, M. Figs. 3 and 10 show the mode of operation of the levers and their connections with the shoes, and from these and Fig. 1 it will appear that when the shoes or runners are in different positions in relation to the bar A, whereby they are adapted to inequalities of the ground, and they are still all under the same pressure, the tension of the spring is not changed by the movement of the levers B.

I claim as my invention—

1. In a seeder, a series of independent levers, B, pivoted on a transverse bar of the frame, each provided with a toothed segment and a pawl and connected severally to the runners by rods and springs, substantially as described.

2. In combination with the main lifting-bar A, a series of levers, B, pivoted thereon and connected severally to the runners, toothed segments on the bar A, to hold the pawls of

the levers B, and a lever and pawl on the bar A, with toothed segment on the frame, whereby any of the runners may be moved separately or all together, substantially as described.

3. In combination with the runners or shoes of the seeder, the pressure-wheels and the spring-rods connecting the wheels and runners, all substantially as described.

4. In combination with the pressure-wheel and runner of a seeder, a spring connecting-rod, said spring-rod having its end connected adjustably to the runner or fluke, whereby the pressure may be regulated, all substantially as described.

5. In combination with the pressure-wheels and runners, the spring connecting-rod C, coiled about a stud, F, and having its end projecting beyond said stud and bearing on a fastening device, all substantially as described.

6. The combination, with the wheels and runners of the seeder, of the spring-rod C, one upon each side of the wheel, the rods having a spring-coil between the wheel and the runner, substantially as described.

7. The series of levers B, mounted upon the main adjusting-bar, and rods H, having spring *h*, and lugs upon the fluke to receive the lower ends of the rod H, whereby the runners in whatever position are always under the same pressure, substantially as described.

CHARLES FOCKLER.

Witnesses:
LEWIS A. OLSEN,
ALEX. SIMPLOT.

(No Model.)

4 Sheets—Sheet 1.

R. P. HOWARD.

SEED DRILL.

No. 488,072. Patented Dec. 13, 1892.

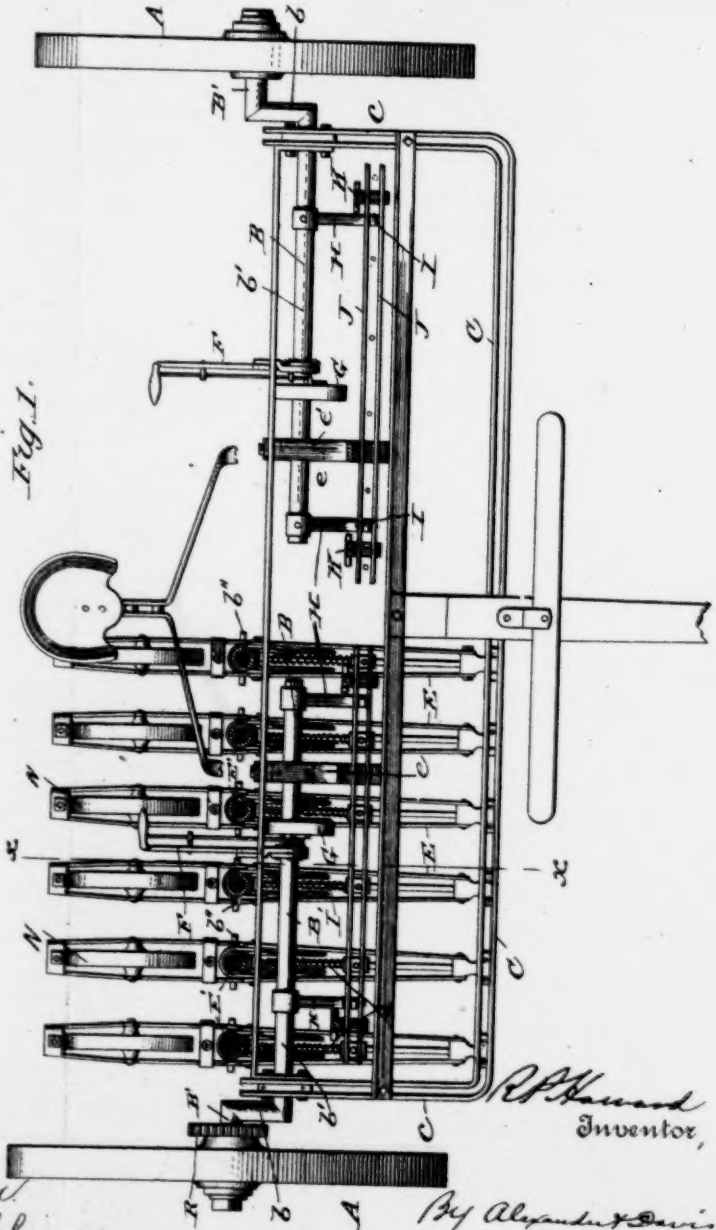


Fig. 1.

Witnesses
E. J. Cassett
John M. Walsh.

Inventor,
R. P. Howard

By Alexander & Davis
Attorneys.

(No Model.)

4 Sheets—Sheet 2.

R. P. HOWARD.

SEED DRILL.

No. 488,072. Patented Dec. 13, 1892.

Fig. 2.

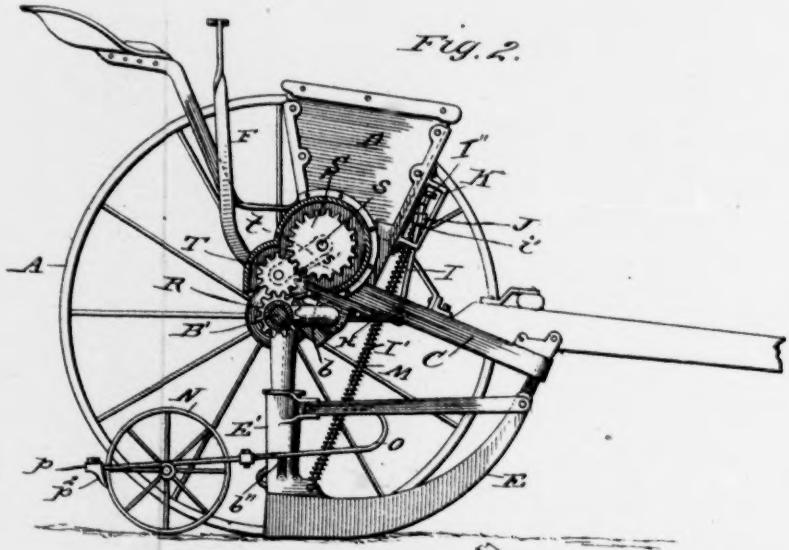
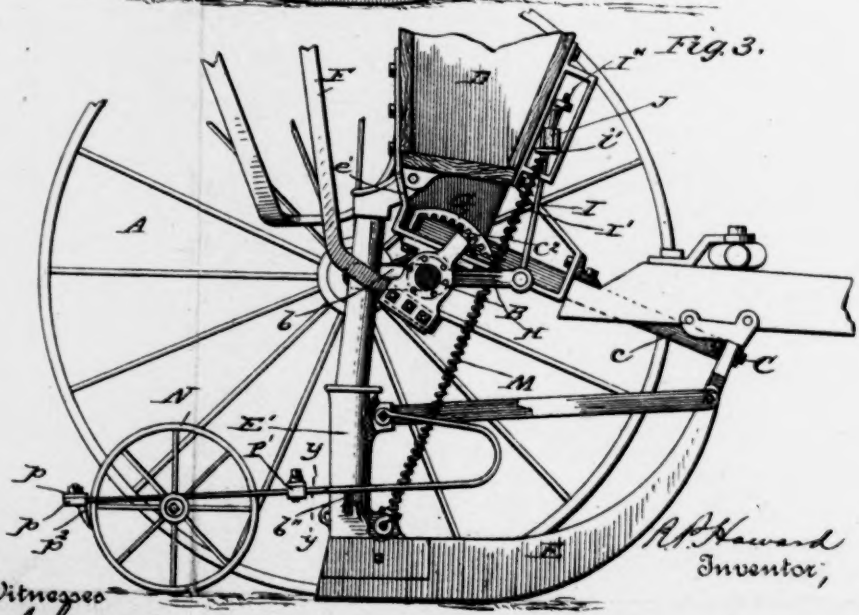


Fig. 3.



Witnesses
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By Alexander & Davis
Attorneys



(No Model.)

4 Sheets—Sheet 3.

R. P. HOWARD.

SEED DRILL.

No. 488,072. Patented Dec. 13, 1892.

Fig. 4.

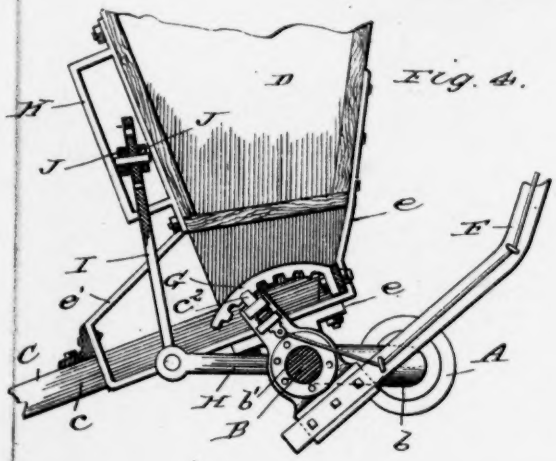


Fig. 5.

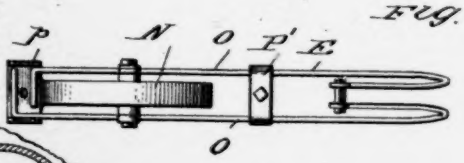


Fig. 10.

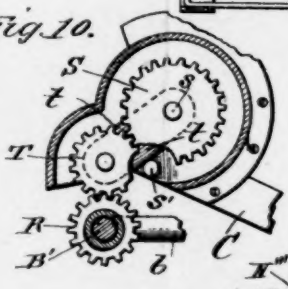


Fig. 7.

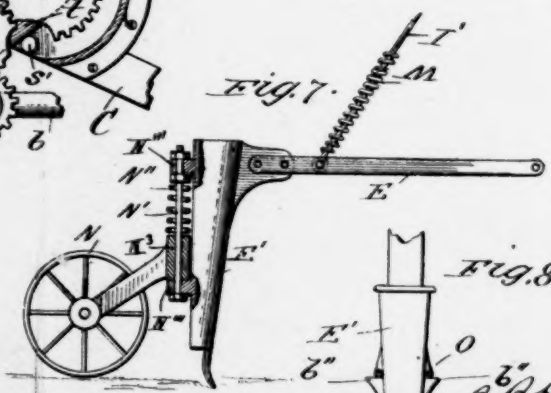


Fig. 8.



Witnesses
C. J. Kissell
John M. Walsh.

R. P. Howard
Inventor

By Alexander & Dennis
Attorneys



(No Model.)

R. P. HOWARD.

SEED DRILL.

4 Sheets—Sheet 4.

No. 488,072.

Patented Dec. 13, 1892.

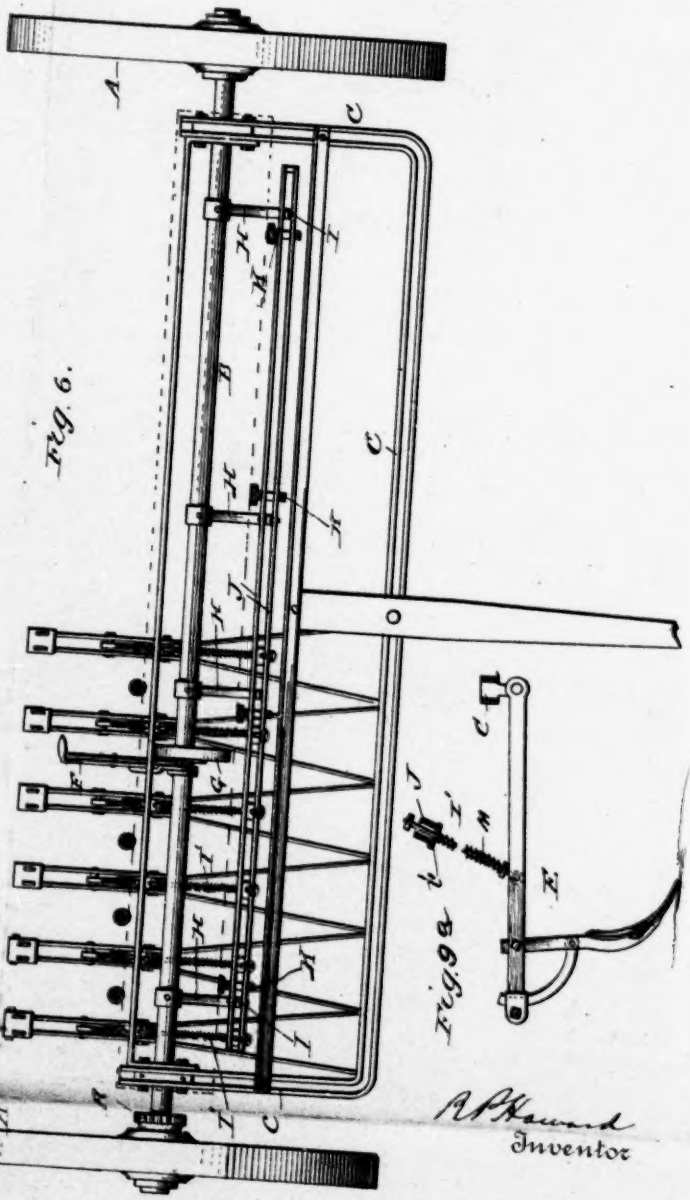


Fig. 6.

Fig. 6a.

Witnesses
C. Gurney
John M. Walsh.

R. P. Howard
Inventor

By Attorneys
Alexander & Dennis

POOR COPY

UNITED STATES PATENT OFFICE.

RUFUS P. HOWARD, OF LA CROSSE, WISCONSIN.

SEED-DRILL.

SPECIFICATION forming part of Letters Patent No. 488,072, dated December 13, 1892.

Application filed March 22, 1892. Serial No. 425,928. (No model.)

To all whom it may concern:

Be it known that I, RUFUS P. HOWARD, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Seed-Drills, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to seeding-machines of the class wherein are employed a series or gangs of drills having shoes, hoes, or teeth to open the ground for the reception of seed or grain discharged from a box or hopper mounted over the drills and suitable covering devices to cover the deposited seed.

My object is to provide improved means for the easy adjustment to proper operative position of the drills with their accompanying parts; to provide means whereby the opening devices may be held yieldingly in operative position; to provide improvements in the covering devices, and, finally, to provide, in view of the raising and lowering devices employed, peculiar gearing for driving the feeding devices in the box or hopper for the discharge of their contents.

To these ends said invention consists in the construction and combination of parts, substantially as hereinafter specified and claimed.

In the drawings, Figure 1 is a plan view of a seeding-machine constructed in accordance with my invention, the hopper or seed-box being removed and but one side being equipped with the drills. Fig. 2 is a side elevation with one of the carrying-wheels removed; Fig. 3, a longitudinal section on line $x\,x$ of Fig. 1; Fig. 4, a detail view in section looking in a direction opposite to Fig. 3; Fig. 5, a detail view in plan of the covering device employed; Fig. 6, a view similar to Fig. 1, showing a straight continuous axle and continuous presser-bars, Sheet 4; Fig. 7, a detail view in elevation and partly in section showing a modification of the opening and covering devices; and Fig. 8, a view of the shoe in section on line $y\,y$, Fig. 3, Sheet 3; Fig. 9, a detail view of the furrow-opening device shown in plan in Fig. 6, Sheet 4; Fig. 10, Sheet 3, a detail view of the gearing for driving the seeding devices.

Referring to the drawings in detail, A and A designate the two carrying-wheels, mounted each on the outer end of one part B of a two-part axle. The radial portion b of each axle part or section is quite close to the inner side of the wheel, and secured to the inwardly-extending part b', close to the radial part, is the forwardly-extending member c of a light frame C, which at its rear portion, directly over the part b' of the axle, supports the hopper or grain-box D, while to its front portion are pivotally attached the front ends of the series of runners or shoes E of usual construction for opening the furrows. To the rear portions of each of the shoes E is attached a drill-tube E', connected in the usual way with the hopper. The inner ends of each axle part B is connected by a boxing e and bracket e' to the hopper, so that by this means and the frame C the two axle parts are kept in alignment. Attached to the cranked part of each axle-section is a lever F, being placed within convenient reach from a seat located at the center of the machine, by means of which the axle may be moved with the center of the wheel A as its axis, and thus the frame C, with all the parts attached, is raised from the ground. In order to render the lever F effective, although attached to the cranked portion of the axle, the part to be grasped is carried to a point on the side of the center of motion opposite such cranked part—that is, on the opposite side of the wheel-spindles—as shown. A rack or toothed segment G, secured to a portion of the frame C beneath the hopper and adapted to co-operate with a spring-pressed pawl C^2 of usual structure that is secured to the lever F, constitutes means for locking the parts in the position to which they may be moved by the use of the lever F. The manner in which said segment and pawl operate will be readily understood by giving attention to the following consideration, viz: The center of motion of the frame C and its attached parts, the seed-box, &c., is the front end of the tongue or pole and the cranked part b' of the axle is between said center and its own center of motion, the wheel-hub. Now as the segment G is above the axle part b' and the pawl-carrying part of the lever F stands at an angle which enables said pawl to engage the segment-teeth in advance of and above the axle part b' it will be seen that so

long as the point of engagement of the pawl and segment is above a horizontal line passing from the lever's center of motion said parts will be locked against descent by reason of the fact that the distance from center to center is less than the aggregate distance from the center of the wheel A to the pawl and segment-engaging point and the distance from the latter to the end of the tongue or pole. In other words, the condition is similar to that where two bars are hinged together with their free ends fixed and the bars so arranged that their joint is above a line drawn from the fixed end of one bar to the fixed end of the other.

Fixedly attached to the cranked part of the axle-sections and extending forward therefrom are several arms H, to the front end of each of which is pivotally attached the lower end of an upwardly-extending bar or link I. The upper ends of the bars I are contained between and fixed to two parallel bars J J, which extend horizontally across the machine directly in front of the hopper, being held in place by brackets K attached to the latter, and of such shape as to allow a certain amount of vertical movements of the bars. It is to be noted that there are two pairs of bars J and J; but I do not limit myself, however, to this construction, as I contemplate using continuous bars, as shown in Fig. 6. From each drill or shoe E rises a rod I′ of such length as to extend up between the two bars J to a point at or near the highest point to which these are capable of movement, and upon the end of such rod is a collar or nut I″. Surrounding each rod between its point of attachment to the drill and the under side of the bars J is a coiled spring M. Said spring is prevented from passing up between the bars by a collar or plate *i*′, through which the rod may freely move and which is in contact with the under sides of the bars J. As thus arranged the spring M serves to transmit to the shoe E any pressure or force which may be applied to the bars J, and thus compel the latter to open a furrow for the seed. Should, however, a rock or other hard substance be encountered, it will yield and allow the shoe to ride over the same. If it is desired to use the machine without this pressure, the spring may be removed. It will be seen that the force applied to the shoe E depends on the tension of the coiled spring M and that the tension of the latter is according to the distance between the point of attachment of the rod I′ encircled thereby to the shoe and the presser-bars. Therefore by swinging the cranked axle upward by means of the lever F the presser-bars, through arms H and links I, will be raised and the springs thus relaxed, while by lowering the axle the presser-bars will be carried downward and the springs placed under tension accordingly, and as the frame C, the seed-hopper, and the other parts carried by said frame are attached to the axle it will be apparent that their weight in tending to move the axle downward operates to compress or place under tension the springs M and to an extent determined by the point of engagement of the pawl-and-segment device, which, as has been before set forth, acts to limit the downward movement of said parts. Thus by cranking the axle and attaching the described parts thereto in the manner set forth I utilize the weight of said parts to compress the springs and to maintain them under the tension described. When the axle is swung upward with a view to raise the shoes entirely from the ground, said shoes will be raised not only because of their connection at their front ends with the frame C, but also because of their connection at their ends with the axle through the medium of the rods I′, the presser-bars J, the links I, and the arms H, and as the point of connection between the arms H and links I describes a greater arc than the cranked portion *b*′ of the axle it will be seen that the amount of movement given to said shoes by the connections with their rear ends is greater than that imparted by the raising of the frame C, so that said rear ends will be raised proportionately higher than the front.

The coverer I employ consists of a wheel N, journaled in boxes attached to two horizontal parallel rods O O, whose forward ends are bowed to make them springy or elastic, and are attached to the drill-spout E′ on its front side near its upper edge by such means that the attached portions will be rigidly held. At its rear end each rod O is bent inward in a horizontal plane toward the other rod, and these bent ends are clamped between two plates *p p*. This device is in rear of the wheel, and in front thereof a clip P′, formed of two plates, connects the rods and braces them. The expedient of the inwardly-bent ends held between plates absolutely prevents torsion or twisting of the rods, and so maintains the wheel in a vertical position, not allowing it to vibrate laterally. To the under side of the lower plate *p* a scraper or cleaner *p*² is attached to clear the tread of the wheel. The coverer-wheels are limited in their downward movement by means of lugs *b*″ on the sides of the drill, with whose upper sides the rods are adapted to engage.

Owing to the cranking of the axle and the varying position of the hopper in consequence, caused by moving said axle, I have had to provide gearing to drive the feed mechanism in the hopper from one of the carrying-wheels, which will always operate, notwithstanding changes in the position of the hopper relative to the axle portion *b*′, on which said wheel is journaled. Said gearing consists of a gear-wheel R on the axle portion B′, a second wheel S on the feed rod or shaft *s* in the hopper, and an intermediate gear T in mesh with these two. The gear T is journaled on one end of an arm *t*, that is hung or pivoted on the rod or shaft *s*, and so is capable of altering its position and yet keep-

ing in mesh with both wheels R and S, notwithstanding changes in the relative positions of the latter. Said wheel T is so placed that its gravity tends to hold it in meshing positions, and a suitable pin or lug s', fixed on the end of the hopper, is adapted to be engaged by the arm t to limit the movement of the wheel into mesh with the others. When the drills are lifted entirely from the ground, said pin operates to hold said wheel entirely out of mesh, and so stop the seed-sowing.

In Fig. 7 is shown a different form of spring-pressed covering-wheel from the one described, and the runner or shoe form of opener is dispensed with and a hoe or tooth used instead.

In this construction the arms carrying the covering-wheel are connected to a sliding block N^2, which is mounted on a vertical rod N'. This rod is secured between two lugs N''', formed on the rear of the drill-spout, a coiled spring N'' being interposed between the sliding block and the upper lug to normally press said block and arms connected thereto and the covering-wheel carried by said arms down.

I wish it understood that as there are features of my invention adapted for use with other than cranked axles I reserve to myself the right to use them with other kinds, and although preferring to connect the axle with the presser-bars J by means described, I contemplate attaching said pressure-bar to the hopper or seed-box.

In Fig. 6 I show a machine provided with a straight and continuous axle, and though I have provided the gearing for operating the seed-feeding devices especially with reference to the use of the cranked axle I propose to use such gearing in connection with a straight axle as well.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of supporting-wheels and a cranked axle, the cranked portion of the axle extending forwardly, a frame C, having its rear end supported upon the cranked portion of the axle, a tongue projecting forwardly from frame C, furrow-opening devices depending from the frame and connected by suitable tubes to a hopper on the frame, a curved rack G, secured to frame C directly over the cranked portion of the axle, a lever F, secured rigidly to the cranked portion of the axle and extending rearwardly beyond the pivotal points of the axle, and a spring-pawl c^2, carried by an extension of the lever and working in rack G, as and for the purpose described.

2. The combination of a cranked axle mounted on wheels, a frame pivotally supported on its cranked portion, and a forwardly-extending tongue secured to the frame, a hopper on the frame, furrow-opening devices pivoted to the frame and carrying spouts communicating with the hopper, a rack on the frame and a lever on the axle engaging this rack, arms H, secured to the axle and extending forwardly therefrom and carrying upwardly-extending rods I, a presser-bar carried by these rods, and spring-surrounded rods connecting the presser-bar to the furrow-opening devices, substantially as described.

3. The combination of a cranked axle mounted on wheels, a frame pivotally supported on the cranked part of the axle and provided with a tongue extending forwardly, a hopper and seed-feeding devices mounted on the frame above the axle, a rack on the frame and a lever on the cranked part of the axle adapted to engage the rack, a gear-wheel on the end of the axle and one on the adjacent end of the feed-shaft, a rearwardly and downwardly extending arm pivoted to the feed-shaft and carrying a gravitating gear-wheel adapted to mesh with both said gears, a stationary stop S' for holding this gravitating gear out of mesh when the furrow devices are raised, and furrow-opening devices, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

RUFUS P. HOWARD.

Witnesses:

W. H. DAVIS,

H. A. DAVIS.

J. L. ASHURST.

GRAIN DRILL.

No. 297,961.

Patented May 6, 1884

Fig. 2.

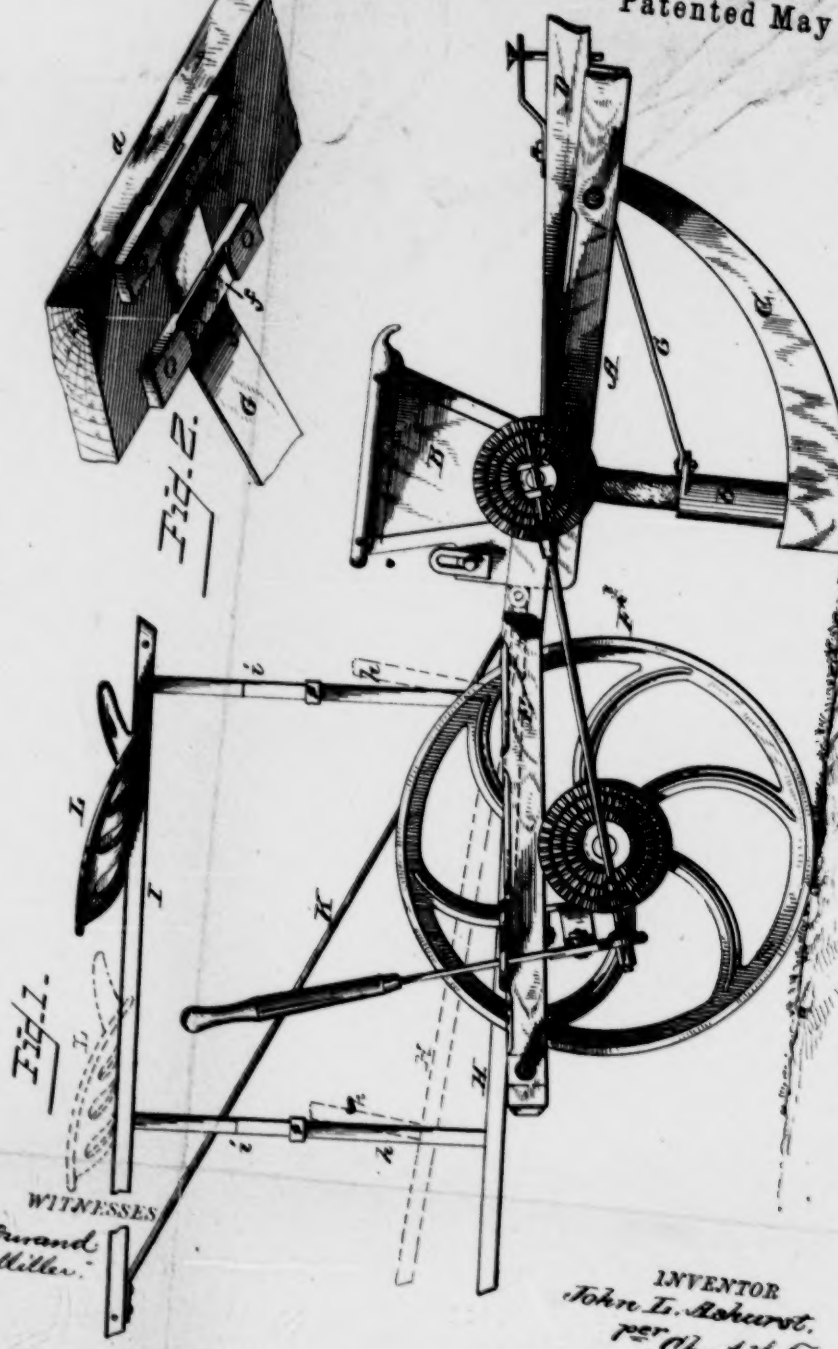


Fig. 1.

WITNESSES

J. L. Durand

P. L. Miller

INVENTOR

John L. Ashurst,

per Chas. H. Foot

Attorney

POOR C

UNITED STATES PATENT OFFICE.

JOHN L. ASHURST, OF HAVANA, ILLINOIS.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 297,961, dated May 6, 1884.

Application filed January 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. ASHURST, a citizen of the United States, residing at Havana, in the county of Mason and State of Illinois, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of a grain-drill, showing my improvements; Fig. 2, a detail view of a portion of the forward frame's front cross-piece and the manner of connecting the flat springs thereto.

The present invention has relation to certain new and useful improvements in grain-drills; and it consists in the details of construction, substantially as shown in the drawings, and hereinafter described and claimed.

In the drawings, A represents the front frame of a grain-drill, to which are secured the hopper B, runners C, and tongue D, this front frame being hinged to a rear frame, E, at each end of the hopper, thereby forming the joint in line with the dropper, said rear frame supported upon the press-wheels F.

Suitably secured to the front cross-piece, *a*, of the front frame, A, are a series of springs, G, preferably flat, and sufficiently strong, said springs extending back and connecting with the top of the shanks or boots *b*, attached to the rear end of the runners C, so that pressure applied on these springs acts directly on the heel of the runner to press it into the earth, the front frame resting entirely on the springs independent of any side wheels to support the same, or hand-levers for adjusting the runners. Though the springs G may be connected to the front cross-piece, *a*, of the front frame, A, in any suitable or convenient manner, I prefer to secure them in the manner represented by Fig. 2, which consists in a clamp or binding-piece, *c*, placed over each spring at its front end, a bolt or screw, *d*, acting as a pivot, being passed through said clamp, spring, and front cross-piece. At the rear of the cross-piece, upon its under side, is placed another clamp or binding-piece, *e*, which is recessed, as shown at *f*, to form a seat for the spring, this latter clamp being of the same length as the former, and arranged with relation to springs in the same manner, though, if found more convenient, these clamps or binding-pieces may be each made of one continuous piece, the runners at their front ends being pivotally connected to the cross-piece *a* between the clamps. If desired to give the springs G greater lateral motion, the rear clamp, *e*, may be reversed, the recess forming a seat for the spring being of greater width in this instance, as shown at *g*.

Hinged to the front frame, A, and extending back over the rear cross-piece of the rear frame, E, are foot-rests H, to which are secured vertical standards *h*, to which are clamped or otherwise connected similar standards, *i*, secured to a seat-slide, I, so as to admit of the latter being vertically adjusted to suit the height of the driver, a pivoted brace-rod, K, extending from the front frame to the rear of said seat-slide.

In order to force the runners C deeper in the earth, the driver upon the seat L moves forward with his feet upon the rests H, thus exerting his weight upon the forward portion of the machine, by which the desired object is accomplished, and to cause the runners to enter the ground a less depth he merely slides backward sufficiently to relieve said front portion of the machine of so much weight as is necessary, while to remove the runners entirely from contact with the soil he slides back nearly or entirely the length of said slide, thus having greater control and adjustment of the drill than is possible with those of the ordinary construction.

For conveying the seed from the dropper, so as to allow of the shanks and runners being adapted to inequalities in the ground, I employ rubber or other flexible pipes extending from the seed-openings in the bottom of the hopper to the interior of said shanks or boots, thus admitting of the same with relation to the runners having a free and easy vertical as well as lateral play, this being a great advantage in lumpy or stony soil.

Connecting the shaft of the presser-wheels F and the seed-dropper in the hopper B is the usual and ordinary gearing, controlled by a hand-lever within easy reach of the driver.

Having now fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In a grain-drill, the combination, with a front and rear frame hinged together, and carrying, respectively, the hopper and runners and the press-wheels, of a hinged foot-rest provided with a seat-slide and means for regulating its height by vertical adjustment, substantially as and for the purpose set forth.

2. In a grain-drill, the combination, with the runners thereof, provided with the usual shanks or boots, of spring connected the and to the cross-piece of the front frame means substantially as shown and descri and for the purpose specified.

In testimony that I claim the above I h hereunto subscribed my name in the pres of two witnesses.

JOHN L. ASHURS

Witnesses:

ISAAC N. MITCHELL,

N. C. KING.

Presume Dance for Double

Monitor Drill

No. 746,432.

PATENTED DEC. 8, 1903.

E. H. ACKERMAN.

PRESSURE DEVICE FOR DRILLS.

NO MODEL.

APPLICATION FILED FEB. 19, 1903.

Fig. 1.

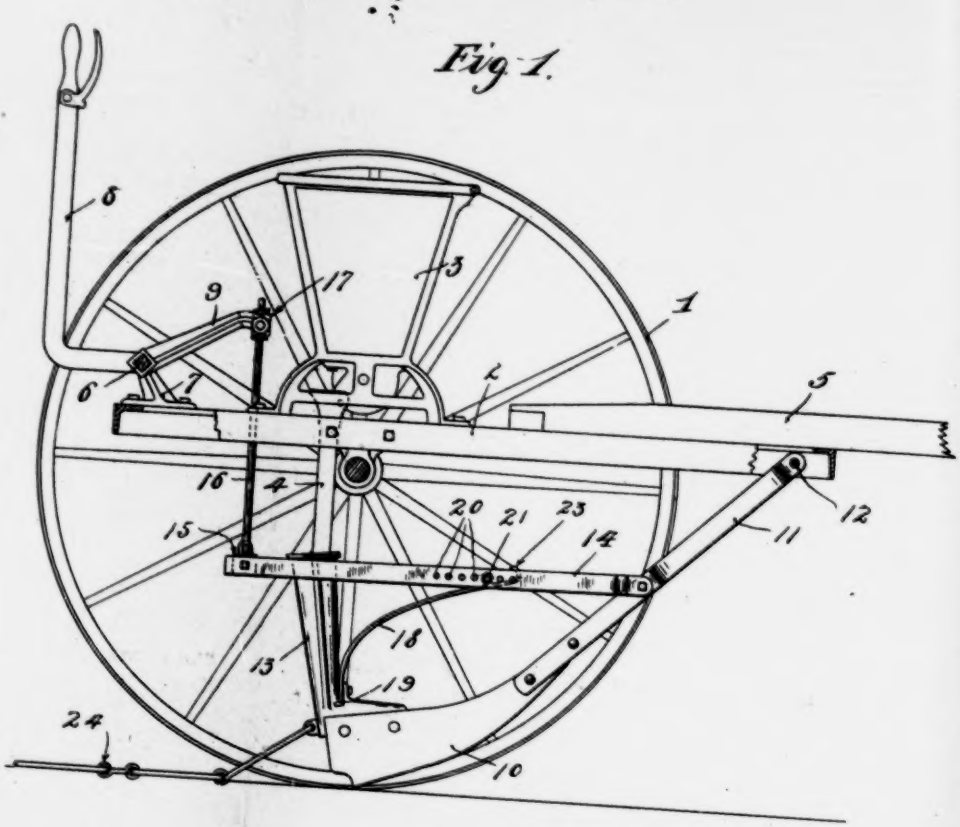


Fig. 4.

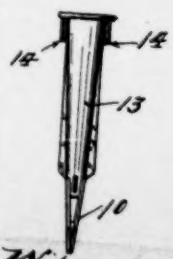


Fig. 2.

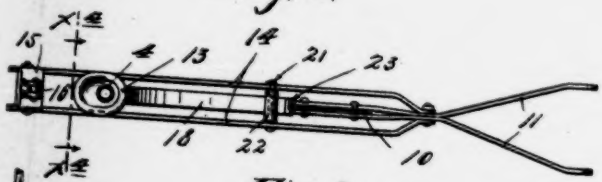
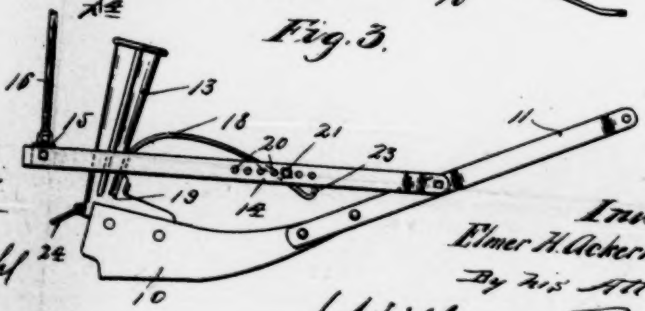


Fig. 3.



Witnesses.
A. D. Nelson.
A. H. Opsahl

Inventor.
Elmer H. Ackerman.
By his Attorneys.
Williamson & Merchant

UNITED STATES PATENT OFFICE.

ELMER H. ACKERMAN, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE MONITOR DRILL COMPANY, A CORPORATION OF MINNESOTA, AND JOHN MAHER, OF MINNEAPOLIS, MINNESOTA.

PRESSURE DEVICE FOR DRILLS.

SPECIFICATION forming part of Letters Patent No. 746,432, dated December 8, 1903.

Application filed February 19, 1903. Serial No. 144,051. (No model.)

To all whom it may concern:

Be it known that I, ELMER H. ACKERMAN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Pressure Devices for Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved pressure device for drills and similar machines; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a view in longitudinal vertical section, taken centrally through a machine having applied thereto one of my improved pressure devices. Fig. 2 is a plan view of one of the shoes and coöperating pressure device, but in a different position. Fig. 3 is a side elevation of the parts shown in Fig. 2, and Fig. 4 is a transverse vertical section on the line x^4 x^4 of Fig. 2.

The numeral 1 indicates the wheels, the numeral 2 the frame, the numeral 3 the seed-box, the numeral 4 the feed-spout, and the numeral 5 the pole, of the machine, which parts may be of the standard or any suitable construction.

The numeral 6 indicates a rock-shaft mounted in suitable bearings 7 on the rear portion of the frame 2 and provided with an operating-lever 8 and with a plurality of forwardly-projecting arms 9, but one of which arms are shown.

The numeral 10 indicates one of the drill-shoes, the forward end of which is secured to a drag-bar 11, the forward end of which bar in turn is pivotally connected at 12 to the forward portion of the frame 2. The feed boot or leg 13 is rigidly secured at its lower end in the usual way to the rear end of the shoe 10.

The numeral 14 indicates a pressure-bar formed by two parallel straps, the forward ends of which are pivotally connected to the drag-bar 11, preferably to the intermediate portion thereof. The straps of the pressure-bar 14 straddle or embrace the boot or leg 13, and the rear ends thereof are spaced apart, but connected by a small bracket 15.

The numeral 16 indicates a pressure-rod, the lower end of which is pivoted to the spacing-bracket 15 and the upper end of which is connected to a block 17, which in turn is pivotally connected to the free end of the arm 9.

The numeral 18 indicates a strong leaf-spring, the lower and rear end of which is rigidly connected at 19 to the lower portion of the boot or leg 13. The straps of the pressure-bar 14 at their intermediate portions are provided with a series of perforations 20, through any alined pair of which may be passed a small bolt 21, upon which is loosely mounted an antifriction-roller 22. The forward and upper end of the spring 18 presses against the under surface of the roller 22, and thus yieldingly forces the shoe 10 and the leg or boot 13 downward. The bolt 21 and roller 22 thus afford a reaction-bearing for the spring 18, which reaction-bearing is carried by the machine and is relatively fixed with respect to said spring. The free end of the said spring 18 is hooked or bent upward to form a stop 23, which when it engages the roller 22 limits the rearward traveling movement of the spring over the said roller.

The numeral 24 indicates a drag-chain attached to the boot or leg 13 and serving to close the furrow formed by the shoe 10. This chain, however, forms no part of my present invention.

My invention resides in the arrangement of the shoe or corresponding element, the pressure-bar, and the spring whereby the improved action now to be described is accomplished. It will of course be understood that in a complete machine a plurality of the shoes, pressure-bars, and springs will be employed and that the several pressure devices may be operated through the common rock-

shaft 6 and actuating-lever 8. In this case the shaft 6 would also be provided with a plurality of arms 9, only one of which is shown in the drawings.

The springs or pressure devices hitherto employed for the purpose to which this invention is directed have not afforded sufficient freedom of movement to the shoes to permit them to freely ride or pass over stones or other large obstructions within their path of travel. Otherwise stated, such springs on account of their comparatively small limit of compression would become rigid under movements frequently given to the shoes in passing over large stones and obstructions, thus frequently causing breakage to certain parts of the machine. By my arrangement of the spring so that at one end its force is applied to press downward against the rear portion of the shoe and at the same time is free to be forced upward between the straps of the pressure-bar 14, and the shoe is so mounted that it may be given a maximum upward movement and, in fact, may be moved so far upward that it passes the straps of the said pressure-bar. In Fig. 3 the shoe is shown as moved upward nearly, but not quite, to the extreme position just indicated. Furthermore, under these extreme movements of the shoe the tension of the spring 18 is not varied to any objectionable extent. The said spring is not at any time forced anywhere near to the limit of its compression or elasticity. By varying the position of the roller 22 and bolt 21 the tension of the spring 18 may be increased or decreased, so as to give the desired normal pressure on the shoe. The said roller 22 permits the free end of the spring 18 to travel over the same under a minimum of friction and increases the efficiency of the spring to a considerable extent.

In practice it will be understood that any well-known or suitable means may be provided for locking the rock-shaft 6 and arms 9, and consequently the pressure-bars 14, in any positions in which they may be set by the lever 8.

It will of course be understood that the device described is capable of modification within the scope of my invention as herein set forth and claimed.

The improved pressure device may of course be used to press into the ground other forms of furrow-openers—such, for instance, as disks and hoes.

A furrow-opening disk at the free end of the drag-bar would be the equivalent of a "ground-shoe" within the scope of this invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a machine of the character described, the combination with a pivoted drag-bar provided at its free end with a ground-shoe, of a leaf-spring anchored at its rear end to a part carried at the free end of said drag-bar, and an adjustable reaction-bearing carried by the machine and against which the forwardly-projecting free end of said leaf-spring bears and under which it travels, substantially as described.

2. In a machine of the character described, the combination with the drag-bar 11 provided at its free end with a shoe, of a presser-bar 14 formed by a pair of straps pivotally connected to said drag-bar and attached at its free end to said shoe, a roller-equipped bolt applied to the straps of said presser-bar, a pressure-spring 18 rigidly attached at its rear end to said shoe, and at its free end working between the straps of said bar 14 and pressing against and traveling under the roller of said bolt, and means for vertically adjusting the rear end of said presser-bar, substantially as described.

3. In a machine of the character described, the combination with the drag-bar 11, provided at its rear end with a shoe 10, and a boot 13, of the pressure-bar 14, formed by a pair of straps pivotally connected to said drag-bar and embracing said boot 13, a roller-equipped bolt adjustably secured to the straps of said bar 14, the pressure-spring 18, rigidly attached at its rear end to said rear portion of said shoe, and at its free end working between the straps of said bar 14 and against the roller of said bolt, and means for vertically adjusting the rear end of said pressure-bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ELMER H. ACKERMAN.

Witnesses:
GENEVIEVE HIRSCH,
F. D. MERCHANT.

(No Model.)

2 Sheets—Sheet 2.

W. A. VAN BRUNT.

GRAIN DRILL.

No. 412,808. Patented Oct. 15, 1889.

Fig. 3.

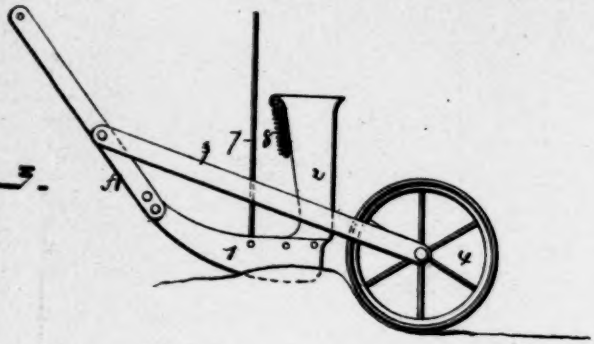


Fig. 4.

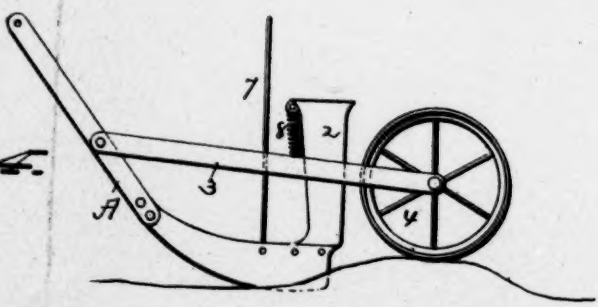
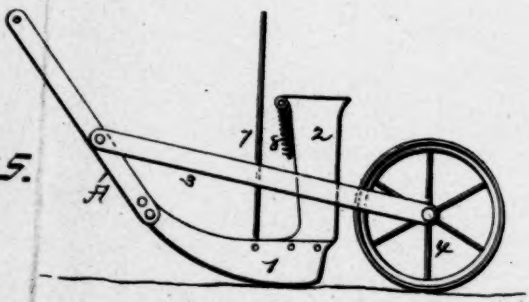


Fig. 5.



Witnesses
E. A. Nottingham
Geo. F. Downing

Inventor
Willard A. Van Brunt

By his Attorney
H. A. Seymour

UNITED STATES PATENT OFFICE.

WILLARD A. VAN BRUNT, OF HORICON, WISCONSIN.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 412,808, dated October 15, 1889.

Application filed August 3, 1889. Serial No. 319,622. (No model.)

To all whom it may concern:

Be it known that I, WILLARD A. VAN BRUNT, of Horicon, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Devices for Covering Grain; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in covering devices for grain-drills, the object being to plant the seed a given depth in soil varying in degrees of hardness and unevenness of surface.

To this end my invention consists in a hoe or share, a feeding-spout, and covering-wheel, in connection with spring mechanism for automatically regulating the pressure upon the hoe or transferring it to the covering-wheel, according to the soil in which the seed is being sown or deposited.

It further consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved attachment. Fig. 2 is a modification; and Figs. 3, 4, and 5 are also modifications showing several different positions taken by the hoe in the movement of the machine.

A represents the usual drag-bar, which is pivotally or otherwise attached to the frame of the machine. The hoe or shoe 1 is rigidly secured to or formed integral with the lower end of the drag-bar, and the vertical feeding-spout 2, which deposits the seed in the trench as it is formed by the hoe, is held on the rear end of the latter. One or two (preferably two) bales or straps 3 are pivotally secured to the drag-bars at their forward ends, and they carry a covering-wheel 4 at their rear ends, which follow immediately in the track of the trench formed by the share or hoe, covering the latter and packing the earth over the seed. The usual rocking shaft 5 extends across the machine, and arms 6 6 project forward from this shaft over each share or hoe. Rods 7 7 are pivoted at their lower ends to the shares, and at their upper ends they extend loosely through rings, buttons, or similar devices loosely connected with their outer ends. A spiral spring 8, mounted on each of these rods between the rings and washers 9, exerts a constant pressure, which, when the arms are in the position shown in Fig. 1, makes the shares cut a uniform depth; but beyond a certain depth they cannot go, for washers 9 finally abut against the straps or bales 3, thus transferring the weight to the straps and the covering-wheel. The tension of the springs operates to force the share or hoe into hard lumpy soil, and, as the shares go in of their own accord in soft soil, the pressure is transferred to the covering-wheels, so that the soft soil is packed. The consequence is that the seed is planted at a uniform depth and the soil is packed when soft.

In the modification shown in Fig. 2 an elliptic spring 8 is secured to the drag-bar so that its free end projects over the straps 3. In this instance, after the share has reached a certain depth, the pressure is transferred to the wheel.

In the modification shown in Figs. 3, 4, and 5, a spiral spring 8 is attached to the tube in position to bear on the drag-bar. The different figures illustrate different positions assumed as the machine passes over a rough surface.

In addition to the arrangements described the bales or straps might be pivoted to the spouts, and the spring might be changed to conform and produce like results.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the particular construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with feed-spouts and shares or hoes, of covering-wheels connected therewith and springs for retaining the shares in the ground at a uniform depth and transferring the pressure to the wheels the moment the shares tend to sink into the ground beyond this uniform depth, substantially as set forth.

2. The combination, with drag-bars, hoes or

shares connected thereto, and feed-spouts located on the shares or hoes, of straps or bales pivotally secured to the drag-bars, covering-wheels journaled in the straps or bales, and springs adapted to transfer pressure upon the covering-wheels when the shares or hoes sink beyond a certain depth, substantially as set forth.

3. The combination, with drag-bars, shares or hoes secured thereto, and feed-spouts located on the shares, of straps or bales, covering-wheels journaled therein, a rod extending upward from the share, and a spring mounted thereon and adapted to exert a constant pressure upon the share and transfer its pressure to the wheels when the share has reached a certain depth, substantially as set forth.

4. The combination, with drag-bars, shares, feed-spouts, and straps or bales pivotally secured to the drag-bars and having covering-wheels journaled in their rear ends, of a rocking shaft, arms thereon, rods pivotally secured to the shares and having loose connection with the arms, said rods having washers thereon, and springs mounted on the rods between the arms and washers, adapted to exert a constant pressure on the shares and transfer this pressure to the wheels when the share has reached a certain depth, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLARD A. VAN BRUNT.

Witnesses:
C. L. BUTTERFIELD,
J. H. PETHERBRIDGE.

(No Model.)

2 Sheets—Sheet 2.

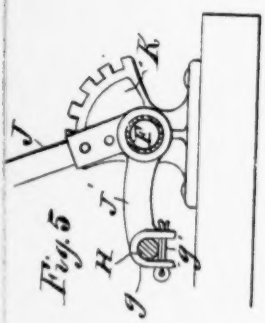
F. R. PACKHAM.

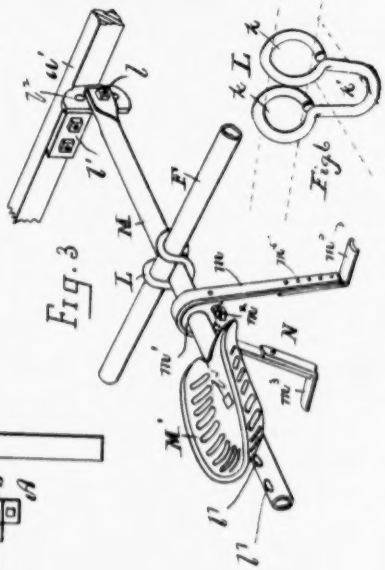
GRAIN DRILL.

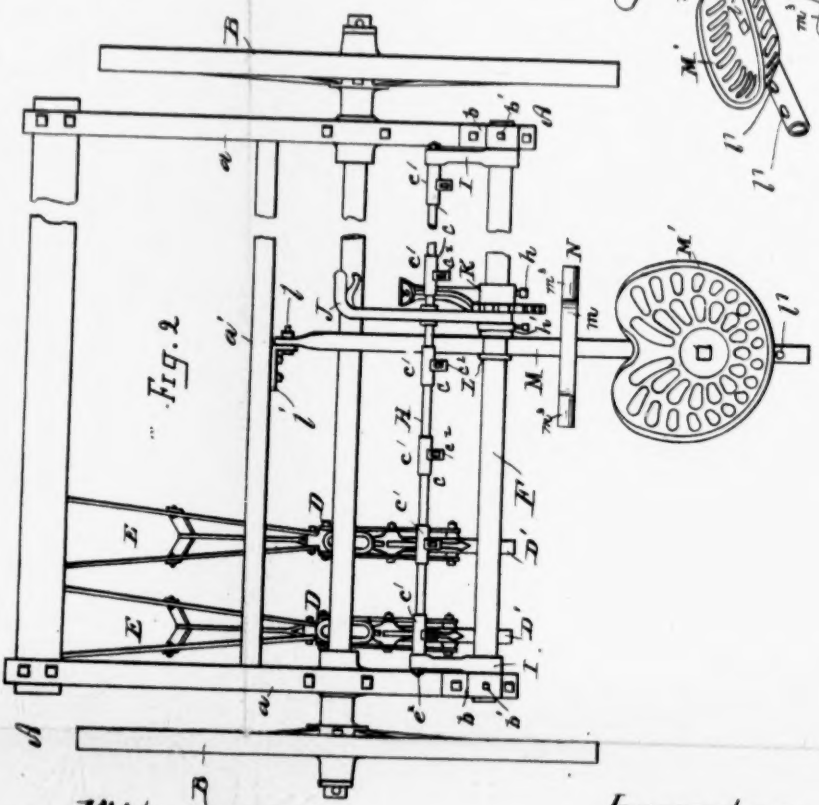
No. 429,320.

Patented June 3, 1890.









Witnesses
D. F. Graham
Chas. I. Welch

Inventor
Frank R. Packham
By Paul A. Staats
Atty.

UNITED STATES PATENT OFFICE.

FRANK R. PACKHAM, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE SUPERIOR DRILL COMPANY, OF SAME PLACE.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 429,320, dated June 3, 1890.

Application filed December 23, 1889. Serial No. 334,607. (No model.)

To all whom it may concern:

Be it known that I, FRANK R. PACKHAM, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Grain-Drills, of which the following is a specification.

My invention relates to an improvement in grain-drills; and it especially relates to constructions particularly adapted for use in shoe-drills, though the constructions may be applied with equally good results to other forms of grain-drills.

The object of my invention is to provide novel means for supporting and operating the lifting and pressure mechanism for raising and lowering the shoes.

A further object of my invention is to provide a novel means for supporting a seat in a convenient position with reference to the lifting and pressure devices.

My invention consists in the various constructions and combinations of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 is a transverse sectional view, shown in elevation, of a machine embodying my invention. Fig. 2 is a plan view of the same, the hopper and some of the parts being removed to better illustrate the novel features of my invention. Fig. 3 is a detail view in perspective of the seat and its supporting mechanism. Fig. 4 is a detail view in perspective of a portion of the raising and lowering mechanism. Figs. 5 and 6 are detail views of some of the parts hereinafter referred to.

Like parts are indicated by similar letters of reference throughout the several views.

In the said drawings, A A represent the frame of a drill, which is supported at each end on suitable carrying-wheels B, from which motion is derived to operate the feeding mechanism in a well-known manner, these constructions being omitted in the drawings for perspicacity, as they form no part of the present invention.

C is the hopper, which is supported, as usual, at each end on the respective side rails *a a* of the main frame.

D D are the shoes, which are connected to the main frame underneath the same in the usual way by drag-bars E. Each of the shoes is preferably provided with a pressing and covering wheel D′, journaled in a suitable hanger D^2, pivoted to the shoe D, and provided with means for connecting the same rigidly to the shoe or permitting it to move independently therewith in a manner which has now become well known in the art. In order to secure the best results with this construction of shoe and presser-wheel, it is desirable that means be provided for raising and lowering the shoe or wheel independently, and it is desirable that the raising and lowering mechanism be arranged as near as possible over the pressing-wheel, so as to secure a direct lift or pressure thereon. In order to accomplish this without disarranging the other parts of the machine or interfering with the proper distribution of weight with reference to the pivotal center of the frame, I place the pressure and lifting mechanism at the rear of the hopper in the following manner: The side pieces *a* of the frame are extended backwardly beyond the hopper and the extended ends connected together by a tubular connection F. This tubular connection is preferably secured at each end in supporting-boxes *b b*, attached to the extended ends of the side pieces *a a*, although any other form of attaching device may be used.

The tubular connection F is preferably made of common black pipe or gas-pipe cut to a suitable length and inserted at each end in the supporting-boxes *b b*, and held firmly therein by set-screws *b′ b′*, or in any other well-known and suitable manner, the pipe being thus held firmly in position, and so forms a connection between the extended ends which adds rigidity to the frame and prevents the displacement of the extended ends of the side rails by spreading or otherwise. On the tubular connection F as thus constructed I support the lifting and pressure mechanism. This lifting and pressure mechanism consists, essentially, of a pressure-bar H′, extending transversely across the frame A A, above the presser-wheels D′, and parallel with the tubular connection F. Arranged along the press-

being connected to said transverse bar by a fastening-clip, and means for adjusting the end of said seat-support with reference to said fastening-clip, substantially as specified.

11. The combination, with a transverse tubular support, of a tubular seat-support supported therefrom, a seat supported on a saddle adapted to fit said tubular support, a fastening-bolt extending through said seat and saddle, and a series of openings in said seat-support adapted to receive said fastening-bolt, substantially as specified.

12. The combination, with the main frame and shoes connected thereto, of a pressure-bar arranged above and connected to said shoes, a lifting-lever, and ratchet-stand supported on a transverse tubular bar, on which said pressure-bar is also pivoted, said lifting-lever being provided with an extended arm formed with an open bearing adapted to receive said pressure-bar, whereby said lifting-lever may be connected to or disconnected from said pressure-bar and adjusted to different positions in the length thereof, substantially as specified.

13. The combination, with the frame and shoes, of a pressure-bar connected to said shoes, said pressure-bar being provided with rocking arms journaled on a transverse pipe or rod supported on said frame, a lifting-lever, and ratchet-stand supported on said transverse pipe or rod, said lifting-lever being adjustably connected to said pressure-bar, substantially as specified.

14. The combination, with the shoes and a pressure-bar arranged above the same, of the bearing-supports, each journaled on the said pressure-bar and provided with a sleeve c^3, having an extended portion c^3, substantially as and for the purpose specified.

15. The combination, with a shoe, the pressure-bar, and a connecting-link between the same, of a bearing-support having horizontal and vertical sleeves for the pressure-bar and link, respectively, the vertical sleeve being provided with an extended bearing on said link, substantially as specified.

In testimony whereof I have hereunto set my hand this 18th day of December, A. D. 1889.

FRANK R. PACKHAM.

Witnesses:
EDWARD L. BUCKWALTER,
RICHARD H. RODGERS.

(No Model.) 6 Sheets--Sheet 1.

C. E. PATRIC & F. R. PACKHAM.

GRAIN DRILL.

No. 404,108. Patented May 28, 1889.

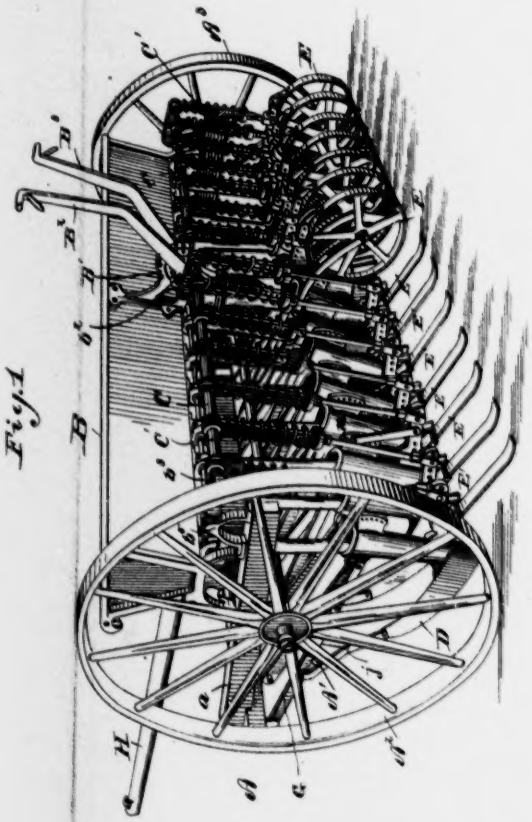


Fig. 1.

Witnesses
Isaiah Richards
John W. Hallick

Inventors
Charles E. Patric
and Frank R. Packham
By Paul A. Staley
Atty.

247

(No Model.) 6 Sheets—Sheet 2.

C. E. PATRIC & F. R. PACKHAM.

GRAIN DRILL.

No. 404,108. Patented May 28, 1889.

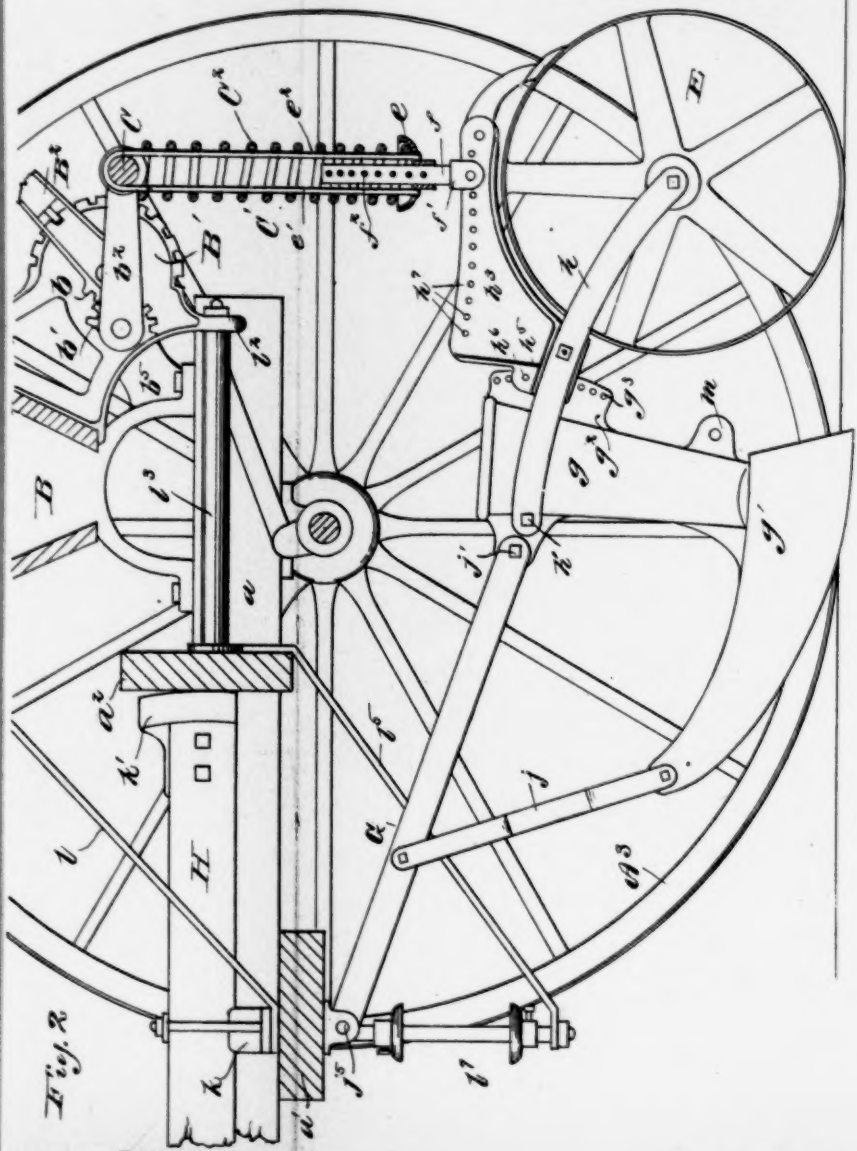


Fig. 2.

Witnesses
Josiah Richards
John W. Eulick.

Inventors
Charles E. Patric
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By Paul A. Sidney
Atty

(No Model.) 6 Sheets—Sheet 3.

C. E. PATRIC & F. R. PACKHAM.

GRAIN DRILL.

No. 404,108. Patented May 28, 1889.

Fig. 3

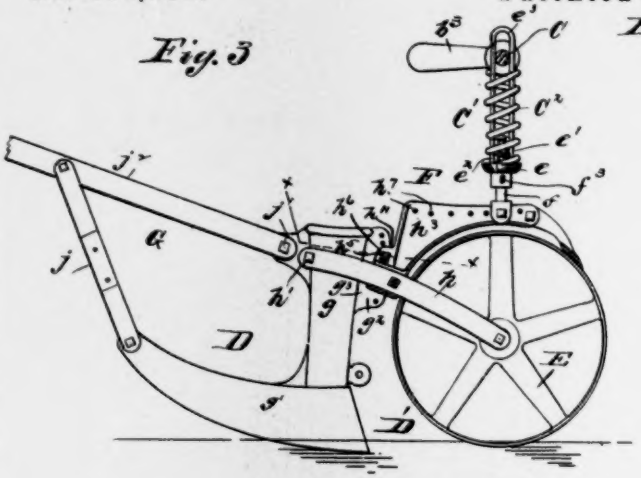


Fig. 7

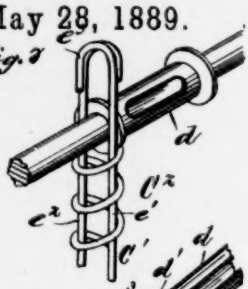


Fig. 8

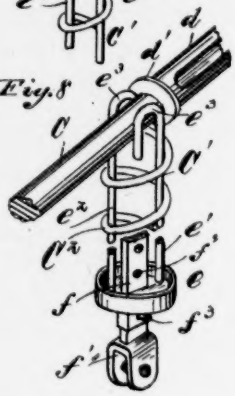


Fig. 5

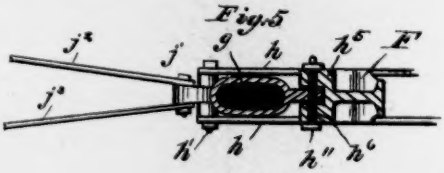


Fig. 4

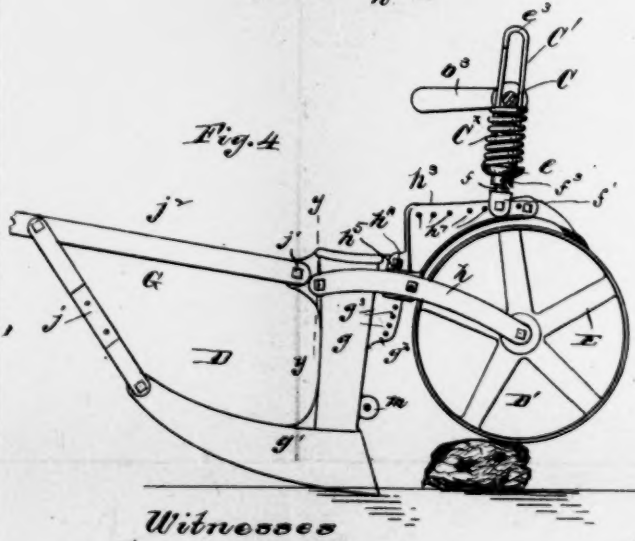
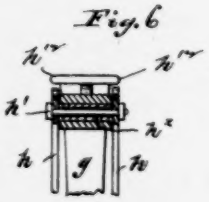


Fig. 6



Witnesses
Isaiah Richards
John W. Kulick.

Inventors
Chas. E. Patric
and Frank R. Packham
By Paul A. Staley
Atty.

(No Model.) 6 Sheets—Sheet 4.

C. E. PATRIC & F. R. PACKHAM.

GRAIN DRILL.

No. 404,108. Patented May 28, 1889.

Fig. 9

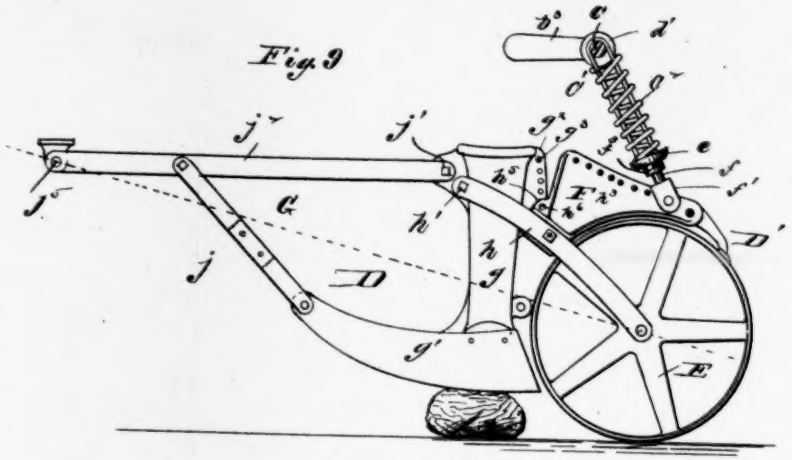


Fig. 10

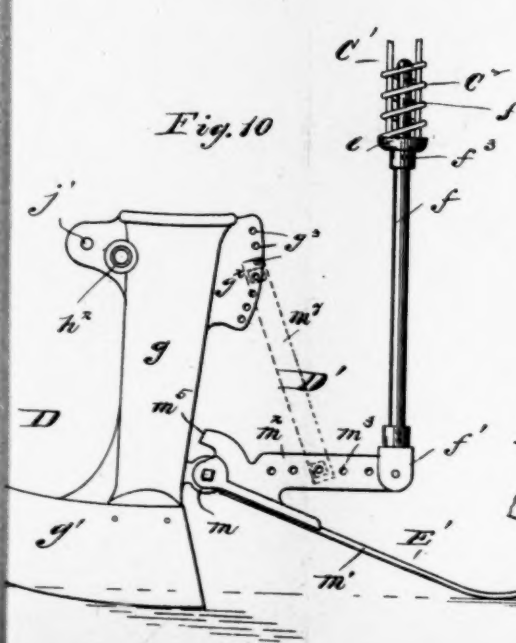
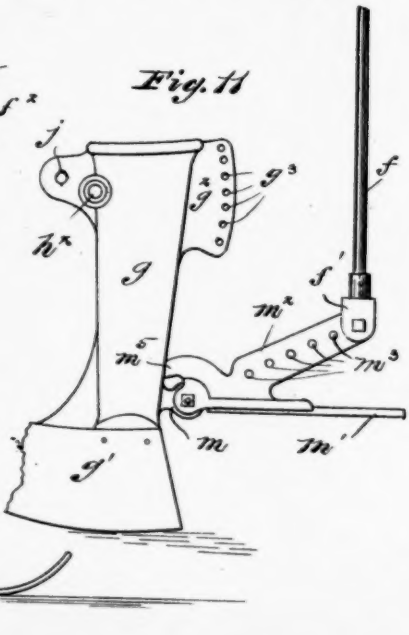


Fig. 11



Witnesses
Isaiah Richards
John W. Hulick

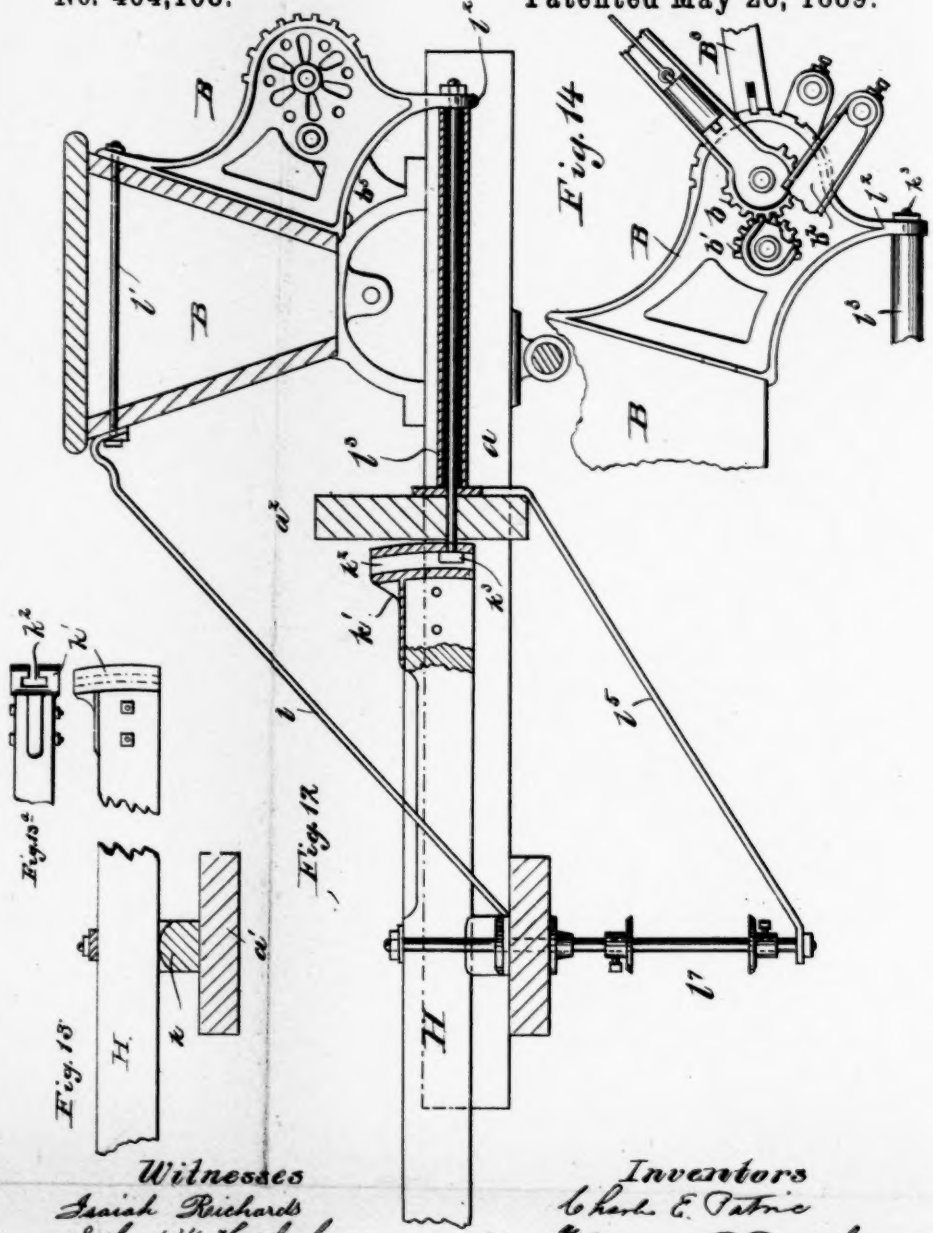
Inventors
Charles E. Patric
and Frank R. Packham
By Paul & Paul
Attys

(No Model.) 6 Sheets—Sheet 5.

C. E. PATRIC & F. R. PACKHAM.

GRAIN DRILL.

No. 404,108. Patented May 28, 1889.



Witnesses
Isaiah Richards
Julius W. Hulick

Inventors
Charles E. Patric
and Francis R. Packham
By Paul N. Dodge & Co.
Attys.

(No Model.)

6 Sheets—Sheet 6.

C. E. PATRIC & F. R. PACKHAM.

GRAIN DRILL.

No. 404,108. Patented May 28, 1889.

Fig. 15

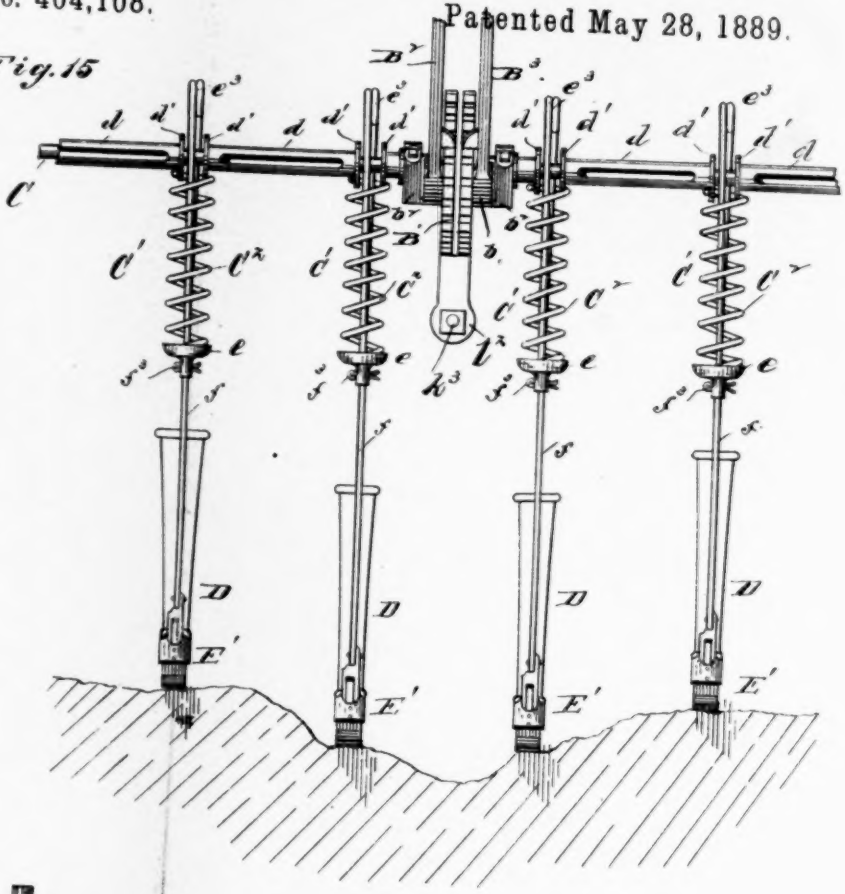
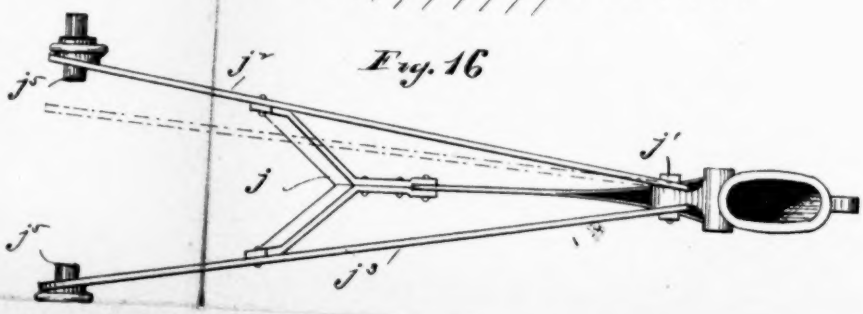


Fig. 16



Witnesses
Isaiah Richards
John W. Hulick.

Inventors
Charles E. Patric
and Frank R. Packham
By Chas. A. Mills
Atty

UNITED STATES PATENT OFFICE.

CHARLES E. PATRIC AND FRANK R. PACKHAM, OF SPRINGFIELD, OHIO, ASSIGNORS TO THE SUPERIOR DRILL COMPANY, OF SAME PLACE.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 404,108, dated May 28, 1889.

Application filed October 29, 1888. Serial No. 289,433. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. PATRIC and FRANK R. PACKHAM, citizens of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Grain-Drills, of which the following is a specification.

Our invention relates to improvements in grain-drills, and it especially relates to that class of drills known as "shoe-drills."

The object of our invention is to provide a drill which shall be adapted to various kinds of soil and capable of ready adjustment, so that the grain may be planted at the proper depth and under the proper conditions most favorable to the soil and climate in which the machine is to be used.

Our invention consists in the constructions and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a grain-drill embodying our invention. Fig. 2 is a sectional elevation of a portion of the same, showing the arrangement of the shoes with the gage or covering device, together with the adjustable pressure device therefor. Fig. 3 is a side elevation of a shoe with a gage attachment in the form of a wheel, showing the said attachment used directly as a gage to regulate the depth of the planting. Fig. 4 is a side elevation of the same, showing the gage or covering attachment connected loosely to the shoe and used as a presser or covering device, the view being adapted for illustrating the manner of passing over obstacles. Fig. 5 is a section on the line x x in Fig. 3. Fig. 6 is a sectional view on the line y y in Fig. 4. Figs. 7 and 8 are detail views in perspective, showing the arrangement of the pressure-springs with reference to the pressure-bar. Fig. 9 is a side elevation of a shoe with the covering or presser device, illustrating the operation of the parts when the shoe is passing over an obstruction. Figs. 10 and 11 are side elevations of a shoe with a modified form of presser or covering device, the same being shown in different positions in the different views. Fig. 12 is a sectional elevation showing the arrangement of the supporting-frame in connection with the tongue and lifting and pressure attachment. Fig. 13 is an elevation, partly in section, showing the arrangement of the tongue and its adjusting mechanism in detail. Fig. 13^{A} is a plan view of Fig. 13. Fig. 14 is a side elevation in detail of a portion of the lifting and pressure device. Fig. 15 is a rear elevation of the shoes and pressure device, illustrating some of the adjustments of the same. Fig. 16 is a plan view of one of the shoes in detail, showing the attachment of the same to the drag-bars and to the frame.

Like parts are indicated by similar letters of reference throughout the several views.

In the said drawings, A represents the main frame, supported on a driving-shaft, A′, which carries the driving-wheels A^{3} A^{3}, in the ordinary manner. A hopper, B, is supported on the main frame and is provided with the usual feeding devices, which secure their motion from one or both the driving-wheels in a well-known manner, this part of the device forming no part of the invention.

The main frame consists of the end rails, a a, front bar, a', and the center or intermediate bar, a^{3}. The hopper B rests at each end upon the end rails a a. Secured to the rear of the hopper, at or near the middle thereof, is a ratchet or supporting-stand, B′, on either side of which are journaled or pivoted lifting-levers B^{2} B^{2}. These lifting-levers are each provided at their lower extremity with segments, b, of gear-teeth, adapted to engage with similar segments, b', on crank-arms b^{2}, also journaled or pivoted to the ratchet-stand B′ in such a manner that a movement of the lifting-levers B^{2} B^{2} produces a movement of the crank-arms b^{2} in the opposite direction, each of the said lifting-levers and its crank-arm being independent of the other in their movements. Extending from the respective crank-arms b^{2} in either direction toward the ends of the frame are straight shafts or pressure-bars C, attached at their outer ends to crank-arms b^{3}, similar to the inner crank-arms, b^{2}, the outer crank-arms being journaled in suitable bearings, b^{5}, preferably cast rigid with the supporting-legs of the hopper B, as shown in Figs. 2 and 12.

At intervals along the pressure-bar C are

loops or stirrups C′, having springs, preferably of coiled steel wire, C^2, which stirrups are connected to the respective shoes, as hereinafter more fully described, one stirrup and spring being used for each shoe with which the drill is provided.

Each of the lifting-levers B^2 and B^3 is provided with a suitable spring-bolt and latch adapted to engage in one of a series of notches in the ratchet-stand B′, so that the same may be held in different positions of adjustment, means being thus provided for regulating the position of the pressure-bar with reference to the springs C^2, stirrups C′, and the shoes, in the manner hereinafter more fully described.

Located on the pressure-bar C, between the respective stirrups C′, we provide sleeves *d*, having at each end collars or flanges *d′*, each adapted to engage in the upper end of one of the springs C^2 and thus hold said springs in position, and at the same time form means of holding the stirrups C′ in the proper position over the shoes and at suitable intervals along the pressure-bar C. Each of the stirrups is provided at the lower end with a spring-cap, *e*, to which the lower end of the stirrup is attached and between which and the pressure-bar C the springs are adapted to rest. The stirrups C′ are made in two parts, *e′* and e^2, preferably of steel wire or other suitable material, each formed at the upper end with a hook, e^3, as shown in Figs. 7 and 8, the respective hooks being bent in opposite directions, so as to lie adjacent to and parallel with each other. By this construction the end of the stirrup is closed above the pressure-bar C, while at the same time means are provided for readily inserting said stirrups in place over said bar by turning the stirrups to an unusual position and forcing the hooks apart, as shown in Fig 8, in which position they will slip over the bar, after which they spring to the position shown in Fig. 7 and remain firmly attached to said bar.

Extending upwardly through the cap *e* of each of the stirrups C′ is a connecting rod or bar, *f*, preferably bifurcated at the lower end, as shown at *f′*, and adapted to be connected to the shoe attachment, as hereinafter more fully set forth. The upper portion of the connecting-bar *f*, which extends through the cap *e*, is provided with a series of holes, f^2, through which a pin, f^3, is adapted to be inserted to connect the said bar to the cap *e* in different positions.

The shoes D are connected in the usual position under the hopper B to the main frame A, each of the shoes being made with the hollow portion *g*, through which the grain is adapted to pass from the feeding mechanism and the blade or runner *g′* in the usual manner.

Connected to the shoe D and adapted to follow the same is a presser or gage attachment, D′, adapted to serve the double purpose of gaging the depth to which the grain is to be planted and pressing the earth above the grain, so that the earth, where the soil is light, will be retained in a proper position to insure the sprouting of the grain. This presser or gage attachment we provide in two different forms to suit the soil in which the planting is to occur. In one form we use a wheel, E, and in the other a spring-bar, E′. When the wheel E is used, it is attached to the hoe at a point a little to the rear of the point of the attachment of the drag-bar (hereinafter more fully referred to) by means of a hanger, F, having the traction-bars *h* at either side, between which the wheel E is adapted to turn. The traction-bars *h* are pivoted to the shoe D, as shown in Fig. 6, by means of a small bolt, *h′*, which passes through a sleeve, h^2, in an opening in the said shoe, the bolt *h′* being adapted to draw the traction-bars *h* tightly against the ends of the sleeve h^2, which is slightly longer than the bearing in the shoe D, in which it is adapted to turn freely. The hanger F is provided with an upwardly and backwardly extending bearing-support, h^3, secured to the traction-bars *h*, and provided with a bifurcated portion, h^4, adapted to slide on either side of a web or rib, g^2, on the rear of the hollow portion *g* of the shoe D, the outer surface of said rib being formed on the arc of a circle struck from the center of the sleeve to which the traction-bars *h* are attached.

The rib or flange g^2 is provided with a series of openings, g^3, while the bearing-support h^3 has a small opening, h^5, adapted, as the hanger F is moved along the said flange, to come opposite one of said openings g^3. The bearing-support h^3 of the hanger F is also provided at the top with a series of openings, h^7, with which the bifurcated portion of the connecting-bar *f*, above referred to, is adapted to be connected.

When working under normal conditions the connecting-bar *f* is preferably connected to the hanger F at a point directly, or nearly so, above the center of the wheel E, as shown in Fig. 3. If it is desired to gage the depth (by means of the said wheel) to which the grain is to be planted, the said wheel is adjusted to the proper relation with said shoe by moving the same on its pivoted bearings h^2 and attaching it rigidly to said shoe by a bolt, h^{11}, which passes through the hanger F and engages in one of the holes g^3 in the rib g^2 on said shoe.

As above described, the stirrups C′ hang loosely on the pressure-bar C, the springs C^2 being placed between said pressure-bar and the spring-caps *e*, which form a part of said stirrups. Now, it will be seen that as the pressure-bars are turned downwardly against the springs C^2, the pressure upon the hanger F may be increased as desired. When the said hanger F is connected rigidly to the shoe D, as just described, the pressure is transmitted to the said shoe and to the gage attachment equally, so that any desired pressure

may be obtained upon the shoe and gage device without changing the relative position of the said parts. By having the hanger F extended out from the shoe and over the gage-wheel an increased leverage is secured at the point where the pressure is applied, so that the pressure is more effective than when placed directly over the hoe or between the same and its point of attachment to the frame.

When it is desired to use the gage or presser device simply for the purpose of pressing the soil over the planted grain, the pin h^{11} is removed and the device is then allowed to adjust itself independently of the shoe to the inequalities of the ground, as shown in Figs. 4 and 9.

It will be noticed in this connection that by the arrangement of the spring connecting-bar directly over the center of the wheel the pressure of the spring will be adapted to exert itself in a direction to assist the shoe in rising over any obstruction as soon as the same has risen slightly from the ground, while the contrary effect is accomplished after the shoe passes over the obstruction, as shown in Figs. 4 and 9. By connecting the bar *f* to the bearing-support h^3 at the different points indicated by the openings h^7 the pressure applied to the spring may be brought more or less on the hoe or on the presser-wheel, as desired.

The shoes are attached to the frame through the medium of drag-bars G, each having a bifurcated connection, *j*, to the point of the shoe in the usual manner. The rear end of each of the drag-bars G is attached to the shoe at a point, *j'*, slightly in front of the connection *h'* of the traction-bars *h*. The drag-bars G consist, preferably, of two straight bars, j^2 j^3, attached securely to the shoe at the point *j'*, so as to project at an angle thereto, as indicated in Fig. 16, that portion of the shoe to which they are attached being formed with angular faces to produce this result. By this construction the drag-bars are held firmly at the shoe end and are adapted at the forward end to be pressed over trunnions j^5 on the main frame, the resilience of the metal holding the bars in position thereon, thus furnishing means for readily detaching the same by simply pressing the bars together, as indicated in dotted lines in Fig. 16, until the bar is removed from the said trunnion. In a normal position of the shoe a line drawn from the point of attachment of the front end of the drag-bar through the journal of the presser-wheel E falls between the inner point of connection of the drag-bar and the shoe and the traction-bars *h* and the shoe; hence the strain on the drag-bars to draw the shoe forward has a tendency to carry the same into the ground until the said points assume a straight line, thus furnishing the means for regulating the depth of planting when the presser device is left free for acting independent of said shoe. As the shoe passes over an obstruction, this difference of centers is considerably magnified, as shown in Fig. 9, so that the moment the shoe has left the obstruction the propelling force applied to the drag-bar draws the shoe down to its normal position. In order to provide for adjusting this angle of draft with reference to the centers of the wheels and drag-bar connections, we support the tongue H upon a curved seat or bearing, *k*, on the front bar, *a'*, and provide at the rear end of the tongue a curved bearing, *k'*, having a T-shaped slot, k^2, (see Fig. 13^A,) adapted to receive the head of a fastening-bolt, k^3, which secures the same to the center bar, a^2, of the drill-frame.

By loosening the fastening-bolt k^3 and adjusting the tongue up or down with reference to the center bar, a^2, and by turning the same on the curved bearing *k*, means are provided for varying the angle of the tongue with reference to the frame, and thus changing the position of the point of attachment of the front of the drag-bars, which in turn changes the angle of draft to the shoe and presser-wheel, thus regulating the position of the bottom of the said shoe with reference to the said wheel and adjusting the depth of planting.

As above stated, the ratchet-stand B' and the pressure attachment connected thereto are connected to the hopper B. Now, in order to support this device entirely from the hopper and dispense with the additional supports generally used for supporting the lifting and pressure devices, we provide means for relieving the hopper of any torsional strain caused by the raising or lowering of the shoes or by forcing the pressure thereon. This we preferably accomplish by extending a brace, *l*, from the point of attachment of the tongue-bearing *k* to the hopper B. This brace *l* is in turn connected to the ratchet-stand B' through the hopper B by a bolt, *l'*. The ratchet-stand B' is provided with a lower extended lug, l^2, which is connected to the center bar, a^2, by means of the bolt k^3, which also serves to hold the tongue in different positions of adjustment, as above described, a sleeve, l^3, being provided about said bolt, having one end resting against the lug l^2 and the other against a brace, l^4, which connects the said center bar to the hitch-rod l^5, to which the doubletrees or other form of hitch are secured. By this arrangement the bracket-stand B' is held firmly against movement in either direction from the center bar, a^2, and together with the brace *l* relieves the hopper of any torsional strain in the operation of raising or lowering the pressure devices.

In raising the shoes from the ground it will be understood that the lifting-levers are turned until the pressure-bar C comes to the top of the stirrups C', after which, through the medium of the connecting-bar *f*, the hanger F is raised until the traction-bars *h* come in contact with projecting flanges h^{12} on the sides of each shoe, and thus raise the said shoe from the ground. In the event that the shoe is attached to the hanger by means of the pin h^{11},

as above described, the shoe and wheel will be raised together. By the arrangement of the segments on the ends of the lifting-levers, in connection with the gear-teeth on the ends of the rocker-arms attached to the pressure-bar, it will be seen that the pressure-bar moves in the opposite direction to the said levers; hence in raising the hoes from the ground the lifting-levers move in an opposite direction to that in which the drill is going when in operation, thus enabling the operator to lift the shoes much more readily than when lifting in the same direction in which the drill is going. When it is desired to use the presser-feet E′ in place of the wheels E, the hanger F is disconnected from the shoe at the point h' and the presser-feet E′ connected to lugs m, provided on the rear of said shoes for this purpose. The presser-foot E′ consists, preferably, of a single bar, m', of steel or other resilient metal, which may be attached to a projecting arm or support, m^2, provided with openings m^3, adapted to receive a bolt or pin to attach the connecting-bar f. When it is desired to connect the presser-feet E′ rigidly to the hoe, a small bar, m^7, is extended from the support m^2 to the flange g^2, as indicated in Fig. 1 and in dotted lines in Fig. 10. A stop projection, m^5, on the support m^3 is adapted to come against the rear portion of the shoe as the presser-foot is raised, as shown in Fig. 11, when not connected to the flange g^2, and thus raise the shoe from the ground. By this construction the same adjustment may be secured for the presser-feet as for the presser-wheel, and either or both may be used on the same machine.

By having openings f^2 in the upper end of the connecting-rod f, and a pin, f^3, adapted to connect the said rod or bar to the stirrup C′, we are enabled to adjust the position of the said stirrups with reference to the said bar, and thus adjust the position of the respective shoes with reference to the pressure-bars independently of each other. This is particularly advantageous when, as is frequently the case in the western territories, it is desired to plant longitudinally for a considerable distance along a dead furrow. In such a case one or more shoes, which are to travel in the furrow, may be lowered sufficiently to accommodate them to the unevenness of the ground and be held in this position, while the position of the stirrups with reference to the presser-bar remains unchanged, thus furnishing means for exerting a uniform pressure on all the shoes without regard to their position of adjustment with reference to the surface of the ground.

We have shown two lifting-levers and two pressure-bars for raising and lowering the shoes and applying the pressure. This is the preferable arrangement when a number of shoes are used, as indicated in Fig. 1 of the drawings. It is obvious, however, that one lifting-lever may be adapted to raise and lower and apply the pressure to all the shoes, this being the preferable form when a small number of shoes are used.

Having thus described our invention, we claim—

1. The combination, with a shoe, of a wheel journaled in a hanger which is pivoted to the front of said shoe, a rib or flange on the rear of said shoe, and a guide on said hanger adapted to travel alongside of said flange, substantially as specified.

2. The combination, with a shoe, of a wheel journaled in a hanger pivoted to the front of said shoe, a rib or flange on the rear portion of said shoe, a guide on said hanger adapted to embrace said flange, and means, substantially as described, for connecting said hanger to said flange in different positions of adjustment.

3. The combination, in a grain-drill, of a shoe attached by drag-bars to the main frame of said drill and a wheel journaled in a hanger pivoted to said shoe, the centers of the connections between said frame and shoe and said shoe and wheel being such that the bottom of the shoe shall stand below said wheel when said connections are in a straight line, substantially as specified.

4. The combination, in a grain-drill, with a shoe having a drag-bar attached to the frame, of a wheel journaled in a hanger pivoted to said shoe, so that the connecting-points between the shoe and the frame and the shoe and wheel shall be in a straight line when the shoe is slightly below said wheel, and means, substantially as described, for adjusting the frame of the drill to change the position of the point of attachment between the drag-bar and frame, substantially as specified.

5. The combination, with a shoe, of a gaging and pressing attachment pivoted thereto and provided with a rigid bearing-support, a pressure-bar with stirrups and springs, as described, and a connecting-bar from said springs and stirrups to said presser attachment, means for connecting said presser attachment rigidly to said shoe, and means, substantially as described, for adjusting the position of said connecting-bar on said bearing-support, substantially as specified.

6. The combination, with a shoe, of a gaging and pressing attachment pivoted thereto, a flange on said shoe having a series of openings through which said pressing attachment may be attached to said shoe in different positions of adjustment, and a bearing-support on said pressing attachment having a series of openings, whereby the lifting and pressure bar may be connected at different positions to said pressing attachment, substantially as specified.

7. The combination, with the pressure-bar and the lifting-levers adapted to operate the same, of the stirrups and springs thereon, said stirrups being formed in two parts having the hook-shaped ends adapted to be slipped over said pressure-bar, substantially as specified.

8. The combination, with the pressure-bar and a lifting-lever adapted to operate the same, stirrups on the said bar, springs about said stirrups, and shoes under said stirrups, of connecting-bars attached to said stirrups and to said shoes, and means, substantially as described, for adjusting said connecting-bars with reference to said stirrups to move the shoes to or from the said pressure-bar without changing the tension of the said springs, substantially as specified.

9. The combination, with the pressure-bar, the stirrups thereon, and the springs about said stirrups at right angles to said pressure-bar, of sleeves on said pressure-bar, each provided with end flanges thereon adapted to separate the said sleeves and engage in the ends of the said springs and hold the same in position about said stirrups, substantially as specified.

10. The combination, with a series of grain-drill shoes and a pressure-bar connected thereto, of the rocker-arms attached to said pressure-bar, one of said arms being provided with gear-teeth thereon, a lifting-lever having a segment of gear-teeth adapted to engage with the teeth on said rocker-arm, and a ratchet-stand on which said lever is journaled, substantially as and for the purpose set forth.

11. The combination, in a grain-drill, of the lifting-lever and pressure-bar, said lever being provided with a segment adapted to engage with teeth on the arm of said pressure-bar, a ratchet-stand secured to the hopper and adapted to support said lifting-lever and bar, and a sleeve and connecting-bolt extending from said ratchet-stand to the drill-frame, substantially as specified.

12. The combination, with the drill-frame and hopper, of a ratchet-stand secured to said hopper adapted to support the lifting-lever, a brace from said frame connected through said hopper to said ratchet-stand, a sleeve between said frame and ratchet-stand below said hopper, and a bolt or rod connecting said frame and ratchet-stand through said sleeve, substantially as specified.

13. The combination, with the shoes having the drag-bars attached rigidly thereto at one end, so as to project at an angle, as described, of the trunnions on the frame, to which said drag-bars are adapted to be attached, said bars being formed of resilient metal and adapted to spring over said trunnions, substantially as specified.

14. The combination, with the shoes having the angular faces to which the drag-bars are attached, of the drag-bars formed of resilient metal, secured to said angular faces so as to project at an angle, as described, and trunnions on the main frame, with which said bars are adapted to engage, said bars being held in position on said trunnions by the resilience thereof, substantially as set forth.

15. The combination, with the hopper and the ratchet-stand attached thereto, of the pressure-bars having crank-arms at either end thereof, one of the crank-arms of each bar being journaled to said ratchet-stand and provided with gear-teeth, lifting-levers having gear-teeth adapted to engage the teeth in said crank-arms, stirrups on said pressure-bars, springs on said stirrups, and connecting-rods from said stirrups to the shoes, substantially as set forth.

16. The combination, with a pressure-bar and its operating-lever, of the stirrups formed in two parts of resilient metal, springs on said stirrups, sleeves on said pressure-bar between said stirrups, said stirrups having flanges at the ends adapted to engage said springs, and connecting-rods from said stirrups to the drill-shoes, substantially as set forth.

17. The combination, in a grain-drill, of a shoe with a pressing and gaging wheel attached to and adapted to follow said shoe, a hanger in which said wheel is journaled, having a bearing-support connected rigidly to said hanger over said wheel, variable pressure-springs over said hanger, and means for connecting said springs to said bearing-support at different points, substantially as specified.

18. The combination, with a shoe having a gage and pressing attachment pivoted thereto, of a pressure-bar having a stirrup and spring thereon above said pressing attachment, and an independent bar connecting said pressing attachment to said stirrup, whereby said pressing attachment may be adjusted to or from said pressure-bar without changing the tension of said springs, said connecting-bar being provided with a series of openings adapted to receive the connecting pin or bolt which secures the same to the said stirrup, substantially as specified.

19. The combination, with a series of grain-drill hoes and a pressure-bar having the stirrups and springs arranged above said hoes, one stirrup and spring for each hoe, of independent bars connecting said stirrups to the respective hoes, and means, substantially as described, for changing the point of connection between the respective stirrups and bars to adjust the hoes to or from the pressure-bar without changing the tension of the spring, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands this 25th day of October, A. D. 1888.

CHARLES E. PATRIC.
FRANK R. PACKHAM.

Witnesses:
ISAIAH RICHARDS,
JOSHUA SCOTT.

(No Model.) 2 Sheets—Sheet 1.

J. S. ROWELL.

CULTIVATOR AND SEEDER.

No. 410,768. Patented Sept. 10, 1889.

Fig 1.

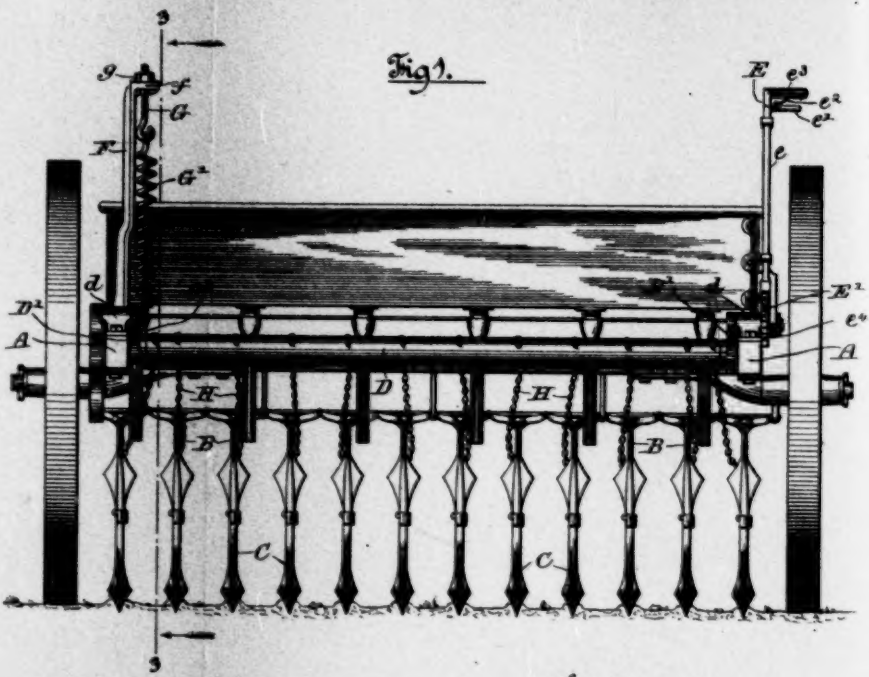


Fig 3.

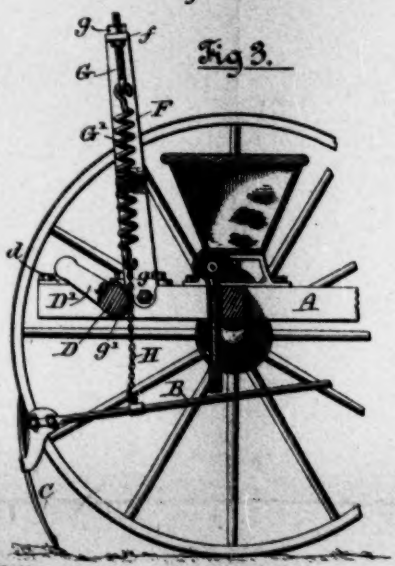
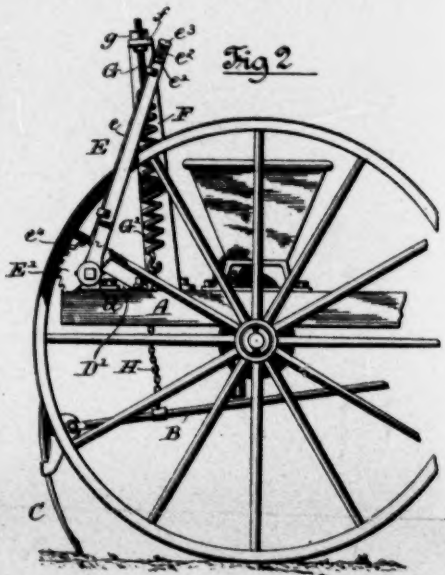


Fig 2



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J. S. ROWELL.

CULTIVATOR AND SEEDER.

No. 410,768. Patented Sept. 10, 1889.

Fig 4.

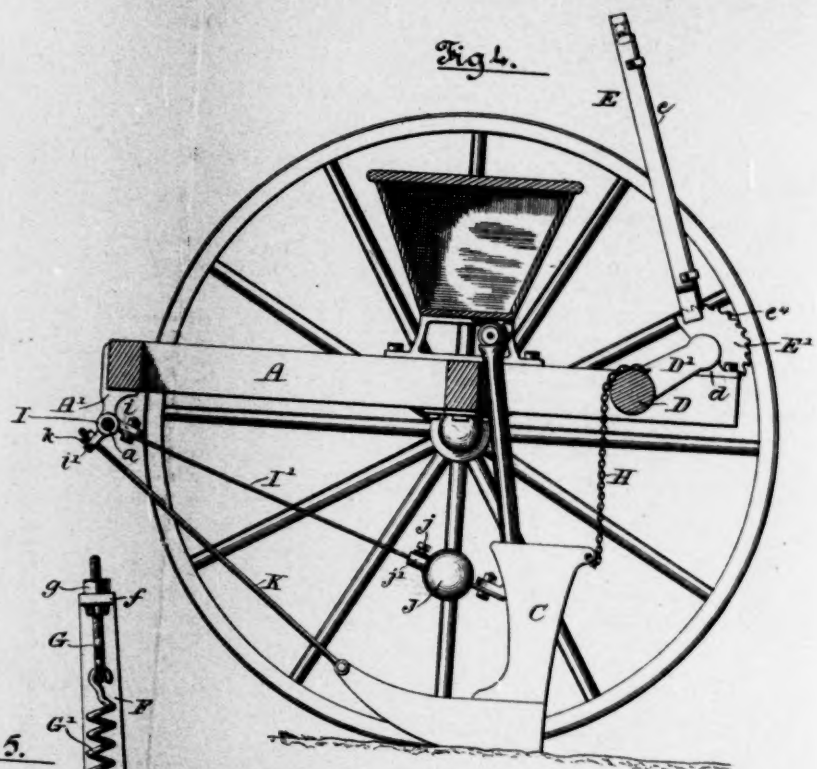
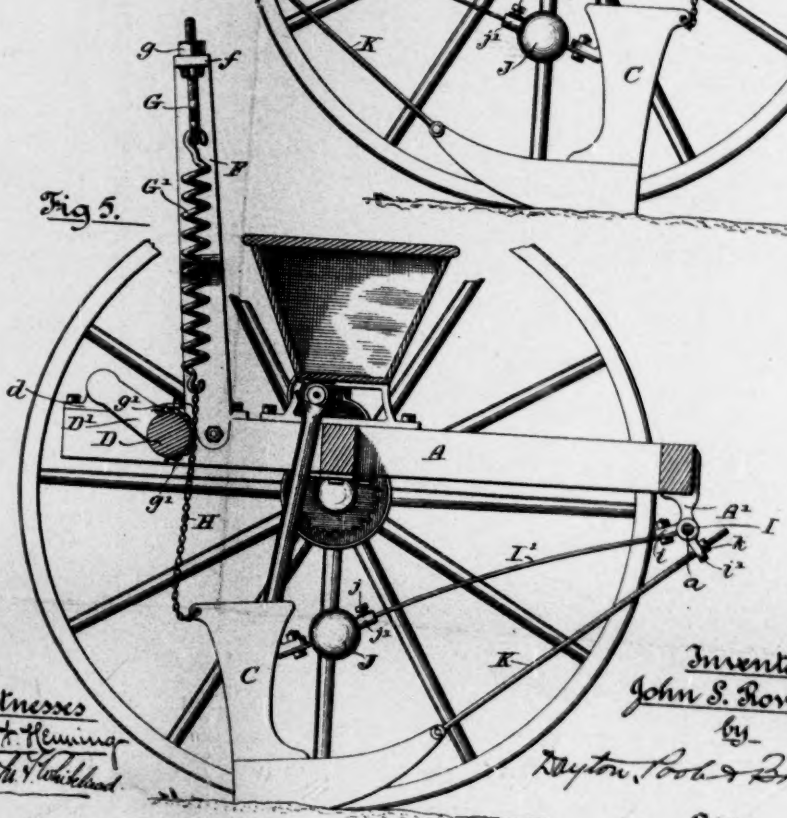


Fig 5.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN S. ROWELL, OF BEAVER DAM, WISCONSIN.

CULTIVATOR AND SEEDER.

SPECIFICATION forming part of Letters Patent No. 410,768, dated September 10, 1889.

Application filed February 4, 1889. Serial No. 298,589. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. ROWELL, of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Cultivators and Seeders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in devices for raising the drag-bars of seeders, drills, and cultivators; and it consists in the several novel features of construction herein described and illustrated, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a rear view of a cultivator provided with my invention. Fig. 2 is a partial side view thereof. Fig. 3 is a partial vertical sectional view of the same, taken on line 3 3 of Fig. 1. Fig. 4 is a vertical sectional view, enlarged, showing a weighted drill-tooth (of different form) provided with an adjusting device. Fig. 5 is a vertical sectional view of the latter in the changed position.

In the drawings, A is the frame, B the drag-bars, and C the drill or cultivator teeth, all of which may be of the usual customary form and construction.

D is a vertically-movable bar or roller extending across the rear of the frame of the machine above the drag-bars. The bar D is supported at each end upon the lateral or crank arms D′, which arms are suitably journaled at *d* upon the frame A.

E is the usual hand-lever, secured to the roller D at or near one end thereof in the usual manner for operating the latter. A locking-pawl *e* is movably secured to the lever E, and is provided with an operating arm or handle *e′*. A spring e^2, secured to the arm *e′*, presses beneath the handle e^3 of the lever E and tends to keep the pawl *e* in engagement with the teeth e^4 of the rack E′. The rack E′ is semicircular, and is rigidly secured to the frame A. A portion of the teeth e^4 are turned in one direction and a portion in the opposite direction, as more clearly shown in Figs. 2 and 4, for the purpose of securing or locking the spring-actuated pawl *e* when the lever E is in the raised as well as in the lowered position.

Secured rigidly to the frame of the machine upon the side opposite to the lever E is a standard F, provided at its upper end with an inturned flange or arm *f*. The standard F is preferably inclined slightly to the rear, as shown in Fig. 3.

G is a screw-threaded hook-bolt, the threaded end of which passes upwardly through the arm *f* of the standard F and is held in position by the nut *g*.

G′ is a spiral spring secured at its upper end to the hooked end of the bolt G and at its other end is secured to one end of a chain *g′*. The other end of the chain *g′* is secured to the under side of the roller D.

H are chains severally secured at one end to the roller D, and secured at their other end to the drag-bar B.

When the lever E is in its uppermost position, as shown in Fig. 2, the roller D is in its lowermost position, as more clearly shown in Fig. 3, and the chain H is slackened and hangs loosely. The spring G′ is also extended by this movement of the lever, and would raise the roller D but for the fact that the latter is locked from movement by the engagement of the pawl *e* with the rack E′.

To raise the bar D, the operator grasps the handle *e′* and presses it against the spring e^2, drawing the pawl *e* out of engagement with the teeth e^4. He then moves the lever through the arc of about a quarter of a circle, or as far as desired. This action causes the roller D to turn on its pivots *d* to its upward position, tightens up the chains H, and raises the drag-bars. This upward movement of the bar or roller D relieves the tension on the spring G′ and permits a contraction of the latter, thus drawing upward upon the chain *g′* and assisting in raising the drag-bars. The tension of the spring G′ may be regulated by the nut *g*. I place the spring G′ upon the side of the machine opposite to the lever E, so that the spring may act upon one end of the bar D when the said lever acts upon the other end, and thus prevent twisting of said roller. Twisting of rollers is a very serious difficulty existing in long rollers on wide ma-

chines, particularly when said machines have weighted drag-bars or where the bars are held down by means of springs.

Turning now to another feature of my invention, as illustrated more particularly in Figs. 4 and 5, I provide means for raising the front ends of the drill-shoe to any desired point. In these figures, A′ A′ are depending brackets to support the draft-rod *a*. I I are spools or sleeves mounted on said rod *a*, and each provided with two lugs *i i′*. I′ is a drag-bar that is secured at one end to the drill-shoe near the top thereof, and at its other end is bolted to the lug *i* of the sleeve I. Upon this bar I′ is secured a suitable weight J, which latter is adjustable upon the bar I′ by means of a set-screw *j*, which is screwed into a hub *j′* of the weight J and bears upon the bar I′. A draft-rod K is secured at one end to the front part or toe of the brake-shoe. The other end of said rod K is screw-threaded and passes through a suitable hole in the downwardly-depending lug *i′* of the sleeve I. A nut *k* secures the draft-rod K to the said lug.

To alter the inclination of the drill-shoe or to raise the front end thereof, as shown in Fig. 5, I simply tighten up the nut *k* on the draft-rod K, which will bow up the tooth-bar I′ into the curved position shown in Fig. 5 and raise the front end of the shoe to any desired point.

In the drawings I have shown two forms of drill-shoes; but it is obvious that both improvements are applicable to either and, in fact, to other forms of shoes. Of course it will be understood that the strength of the spring G′ must be proportioned to the amount of weight to be lifted and that the spring helps to raise the drag-bars where the heaviest lift co[illegible]so that very wide machines or very h[illegible]rag-bars can be raised and lowered v[illegible]mparative ease. The ratchet E′ is secu[illegible]t rigidly to the frame, and is preferably i[illegible]al with the bracket which supports one [illegible] the bar D.

It will be observed that in my improvement the spring exerts its lifting-power and the chains H are wound up on the bar D when the latter is raised by the lever E. The chains H are unwound and slackened when said bar D is lowered. By attaching the ends of the chains H and *g′* to the bar D in the manner illustrated, I obtain a greater draft and greater slackness than is due directly to the actual vertical movement of the bar D.

What I claim is—

1. The combination, with the vertically-movable bar D and a lever and ratchet mechanism at or near one end thereof for raising and lowering said bar, of an upright at or near the opposite end of the bar and a coiled spring connected at one end to the upper end of the upright and at the other end to the bar, substantially as described.

2. The combination of the bar D, mounted on laterally-extended arms D′, a lever for raising and lowering the bar D, a spring arranged to exert a lifting force on said bar, and chains severally connecting the toothed beams with the bar D and passing over the top of the bar to a point of attachment therewith, whereby when said bar D is depressed the chains are unrolled, and vice versa, and thus lengthened or shortened to an extent greater than is directly due to the actual vertical movement of the bar D, substantially as described.

3. The combination, with the toothed beam provided with an adjustable weight, of an adjustable spring arranged to lift the toothed beam, substantially as described.

4. The combination, with a drill-shoe and draft-rod, of an adjustable draft-bar K and a vertically-flexible toothed beam I′, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOHN S. ROWELL.

Witnesses:
LYMAN W. BARBER,
H. W. KEYES.

T. B. ROWELL.

SEED DRILL HOE.

(Application filed Jan. 5, 1901.)

(No Model.)

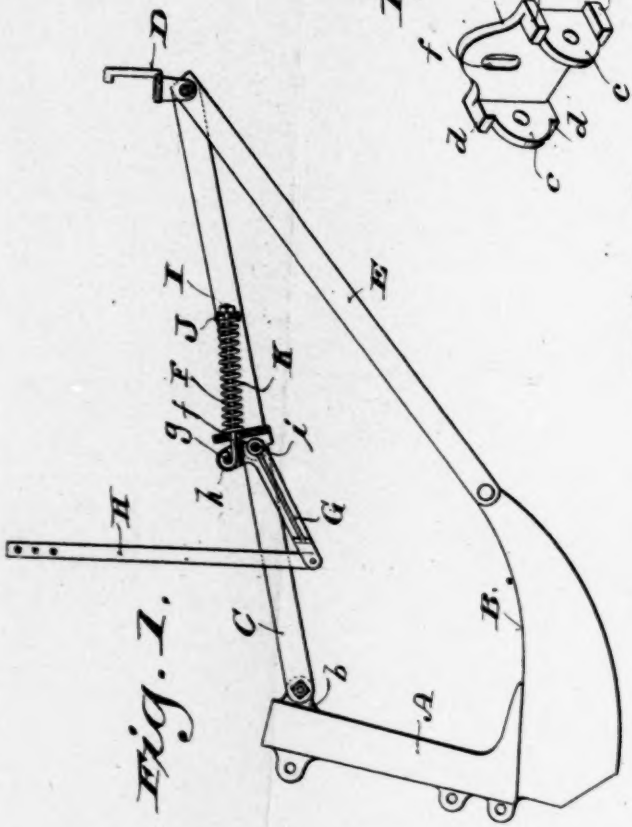


Fig. 1.



Fig. 3.

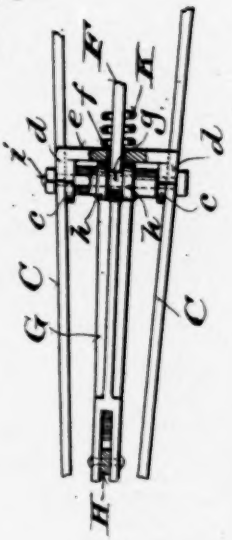


Fig. 2.

Witnesses:

Geo. W. Young.

N. E. Oliphant

Inventor

Theodore B. Rowell

By H. G. Underwood

Attorney

THEODORE B. ROWELL, OF BEAVERDAM, WISCONSIN.

SEED-DRILL HOE.

SPECIFICATION forming part of Letters Patent No. 669,664, dated March 12, 1901.

Application filed January 5, 1901. Serial No. 42,165. (No model.)

To all whom it may concern:

Be it known that I, THEODORE B. ROWELL, a citizen of the United States, and a resident of Beaverdam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Seed-Drill Hoes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to simplify and cheapen the manufacture of seed-drill hoes as well as to provide for their ready yield to obstructions of more than ordinary resistance, said invention consisting in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a side elevation of one of my improved seed-drill hoes, partly in section; Fig. 2, a plan view of a portion of the hoe, partly in horizontal section; and Fig. 3, a perspective view of a brace-block that constitutes a detail of my invention.

Referring by letter to the drawings, A indicates the hollow shank, and B the shoe, of a seed-drill hoe. Bolted to an upper forward ear *b* of the hoe-shank are forwardly-diverging metal brace-bars C, the other ends of these bars being in pivotal union with a hanger D, attachable to a seed-drill cross-beam. Made fast to the forward end of shoe B are other forwardly-diverging metal brace-bars E, that are also in pivotal union with the hanger D, the construction and arrangement of parts thus far described constituting a type of seed-drill hoe to which my improvements are particularly applicable.

Bolted between the bars C, about midway their length, is a casting constituting what I term a "brace-block," having rearwardly-extending bar-opposing side wings *c*, that are provided with upper and lower outer flanges arranged to lap the corresponding edges of said bars. A transverse front portion *e* of the brace-block is provided with an upper, central, and vertically-disposed slot *f*, engaged by a rod F, that has its rear end in the form of a hook engaged by a pintle *g* between a pair of ears *h*, extending at right angles to the arm G, said pintle, ears, and arm being preferably a single casting constituting a bell-crank that is fulcrumed on the bolt *i*, that engages the brace-bars C and said brace-block. The arm G of the bell-crank is considerably longer than the pintle-connected ears integral therewith, the rear end of this arm being forked and pivotally connected to a link bar H, that extends up between the brace-bars C to have pivotal union with a crank such as is common in seed-drills, provision being had for varying the working throw of said link bar.

The forward end of rod F is shown provided with a stop in the form of a nut I, the latter being run on said rod against a preferably flanged washer J, between which and the front *e* of the brace-block is arranged a spiral spring K of suitable power, the tension of this spring being regulated by adjustment of said nut.

By depressing arm G of the aforesaid bell-crank there is pull on rod F and corresponding pivotal swing of the hoe to increase the depth of cut on the part of its shoe; but the construction and arrangement of parts herein shown and described are obviously such that there will be ready yield of the entire hoe in case said shoe meets with an obstruction of more than ordinary resistance. It is also to be observed that provision is had for long sweep of the hoe in proportion to resulting compression of spring K over normal tension. Hence the action is very easy on said spring, and it is obvious that said hoe may be readily lifted to bring the shoe portion thereof out of working position without detriment to the spring mechanism.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hoe-shank and shoe in union with rear ends of bars having their forward ends in pivotal connection with a hanger, a rigid block intermediate of the uppermost bars, a rod extending rearward through a play-slot in the block, a spiral spring held on the rod forward of said block, and a bell-crank in connection with the rear end of the said rod.

2. The combination of the hoe-shank and shoe in union with rear ends of bars having their forward ends in pivotal connection with a hanger, a rigid block intermediate of the uppermost bars, a rod extending rearward

through a play-slot in the block, a spiral spring on the rod forward of said block, means for adjusting tension of the spring, and a bell-crank in connection with the rear end of said rod.

3. The combination of the hoe-shank and shoe in union with rear ends of bars having their forward ends in pivotal connection with a hanger, a block having side wings provided with lateral outer flanges lapping upper and lower edges of the uppermost bars, a bolt extending through said uppermost bars and the adjacent block-wings, a rod extending rearward through a play-slot in the block, a spring held on the rod forward of said b and a bell-crank on the aforesaid bolt in nection with the rear end of said rod.

In testimony that I claim the foreg have hereunto set my hand, at Beaver in the county of Dodge and State of Wi sin, in the presence of two witnesses.

THEODORE B. ROWE

Witnesses:
W. H. STACY,
E. D. STACY.

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ND CLOSE IN CENTER

(No Model.)

SEED DRILL HOE.

(Application filed Jan. 5, 1901.)

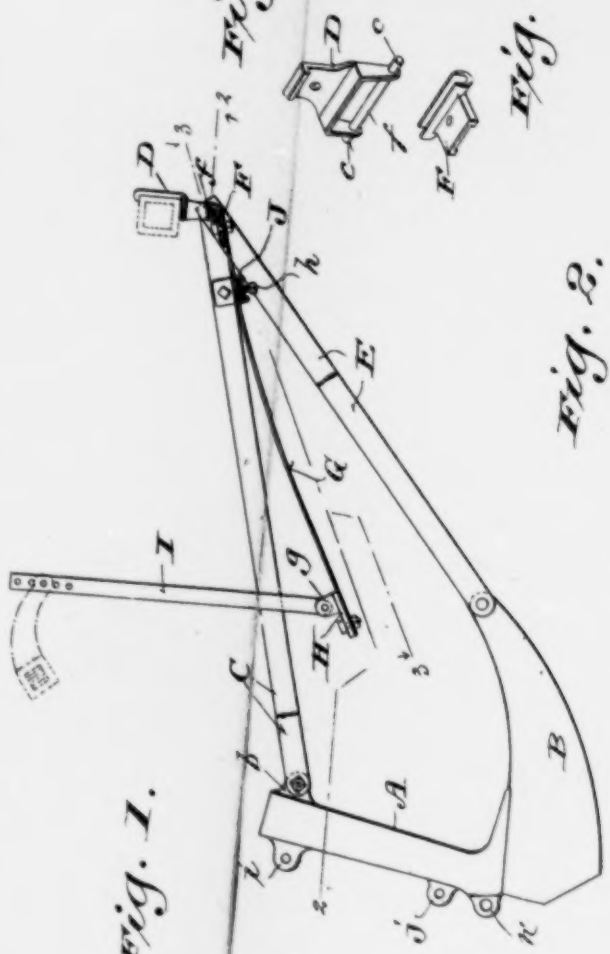


Fig. 1.

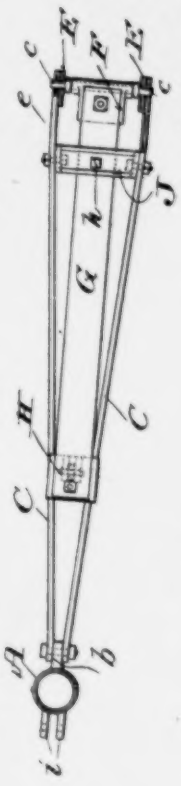


Fig. 2.



Fig. 3.

Fig. 4.

Fig. 5.

Witnesses:
Geo. W. Young.
N. E. Oliphant.

Inventors
John S. Rowell
Samuel W. Rowell
By H. G. Underwood
Attorney

UNITED STATES PATENT OFFICE.

JOHN S. ROWELL AND SAMUEL W. ROWELL, OF BEAVERDAM, WISCONSIN.

SEED-DRILL HOE.

SPECIFICATION forming part of Letters Patent No. 672,916, dated April 30, 1901.

Application filed January 5, 1901. Serial No. 42,153. (No model.)

To all whom it may concern:

Be it known that we, JOHN S. ROWELL and SAMUEL W. ROWELL, citizens of the United States, and residents of Beaverdam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Seed-Drill Hoes; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has for its object to stiffen the shanks and shoes of drill-seeder hoes, as well as to insure of their being kept in line without interference with their ready automatic yield when meeting obstructions of more than ordinary resistance, said invention consisting in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a side elevation of one of our improved drill-seeder hoes, partly broken and in section; Fig. 2, a plan view of the same inverted and partly in horizontal section, as indicated by lines 2 2 in the first figure; Fig. 3, a partly-horizontal section plan view of a portion of the hoe, this view being indicated by lines 3 3 in said first figure; Fig. 4, a perspective view of a spring-clip that constitutes part of the hoe, and Fig. 5 a like view of a hanger engageable with the clip.

Referring by letter to the drawings, A indicates the hollow shank, and B the shoe, of our improved seed-drill hoe, these parts being of ordinary construction, except that said shank is provided with an upper forward ear *b*, to which the rear ends of a pair of forwardly-diverging metal brace-bars C are bolted or otherwise rigidly secured, the other ends of these bars being provided with apertures engaged by trunnions *c* of a hanger D, that is made to fit a seed-drill cross-beam and be fastened thereto, such a beam being illustrated by dotted lines in Fig. 1. Bolted or otherwise rigidly connected to the forward end of the shoe B and in loose fit on trunnions *c* of hanger D is another pair of diverging metal brace-bars E, the forward ends of these bars being lapped by the corresponding ends of the bars C aforesaid.

A brace F of hanger D is made to constitute a pivot engaging the guttered head of a clip F, said brace being in line with the trunnions aforesaid, and bolted or otherwise rigidly secured to the tail of the clip between longitudinal under side flanges of the same is the forward end of a comparatively short flat spring-bar G, the rear end of this spring-bar being a considerable distance forward of the hoe-shank and bolted or otherwise fastened between longitudinal under side flanges of another clip H, having an upper ear *g* in pivotal connection with a link-bar I, that extends up between brace-bars C to have pivotal union with a crank, such as is shown by dotted lines in Fig. 1, provision being had for varying the working throw of said link-bar. The clip H is made wide enough to come up against the under edges of the bars C when the spring G is relaxed, so that the hoe may be readily lifted clear of the ground by sufficient tilt of the aforesaid crank.

Bolted to the brace-bars C is an intermediate metal block J, arranged under the forward portion of spring-bar G, and a set-screw *h* is provided in the block central of same to serve as an adjustable fulcrum for varying the tension of said spring-bar when the hoe is in working position.

The hoe-shank is provided with rear ears *i j* for the connection therewith of the supporting-frame and tension-spring pertaining to a press-wheel, and another rear ear *k* on said shank is for the attachment thereto of a chain-coverer, these ears being common in the art to which our invention relates.

From the foregoing it will be readily appreciated that we provide a simple, very strong, and stiff seed-drill hoe that cannot swing sidewise and get out of line when at work. Hence we avoid chafing of the flexible tube, that in practice engages the hoe-shank, and we also do away with the unsatisfactory spring-fork brace that is commonly arranged to have sliding movement longitudinally of said hoe-shank, these advantages being due to the brace and spring-bars arranged and connected as herein shown and described, all of said bars being pivotal on the same axis.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having

rear-end union with said shank, other forwardly-diverging brace-bars in rear-end union with said shoe, an intermediate spring-bar, means pivotally connecting the forward ends of all the bars on the same axis, and a spring-bar fulcrum in connection with a set of the brace-bars.

2. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having rear-end union with said shank, other forwardly-diverging brace-bars in rear-end union with said shoe, an intermediate spring-bar, means pivotally connecting the forward ends of all the bars on the same axis, and an adjustable spring-bar fulcrum in connection with a set of the brace-bars.

3. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having rear-end union with said shank, other forwardly-diverging brace-bars having rear-end union with said shoe, an intermediate spring-bar, means pivotally connecting the forward ends of all the bars on the same axis, a fulcrum for the spring-bar in connection with a set of brace-bars, and a clip fast on the rear end of said spring-bar, the clip being wide enough to come against the under edges of the uppermost brace-bars when there is sufficient lift of the aforesaid spring-bar.

4. The combination of the hoe-shank and shoe, forwardly-diverging brace-bars having rear-end union with said shank, forwardly-diverging brace-bars having rear-end union with said shoe, an intermediate spring-bar, a hanger with which the forward ends of all the bars are in pivotal connection on the same axis, and a spring-bar fulcrum in connection with a set of the brace-bars.

5. The combination of the hoe-shank and shoe, brace-bars having rear-end union with said shank, other brace-bars having rear-end union with said shoe, a clip having a guttered head, a spring-bar fast at its forward end to the tail of the clip, a hanger with which the brace-bars and clip are in pivotal connection, a fulcrum for the spring-bar, and another clip fast on the rear end of said spring-bar, the latter clip being wide enough to come against the under edges of the uppermost brace-bars when there is sufficient lift of the aforesaid spring-bar.

6. The combination of the hoe-shank and shoe, brace-bars having rear-end union with said shank, other brace-bars having rear-end union with said shoe, a spring-bar, means pivotally connecting the forward ends of all the bars, and a block made fast between the uppermost brace-bars under the forward portion of the spring-bar.

7. The combination of the hoe-shank and shoe, brace-bars having rear-end union with said shank, other brace-bars having rear-end union with said shoe, a spring-bar, means pivotally connecting the forward ends of all the bars, a block made fast between the uppermost brace-bars under the forward portion of the spring-bar, and a set-screw in conjunction with the block in opposition to said spring-bar.

In testimony that we claim the foregoing we have hereunto set our hands, at Beaverdam, in the county of Dodge and State of Wisconsin, in the presence of two witnesses.

JOHN S. ROWELL.
SAMUEL W. ROWELL.

Witnesses:
B. S. BARBER,
E. D. STACY.

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D. C. & W. A. VAN BRUNT.

GRAIN DRILL.

No. 461,292. Patented Oct. 13, 1891.

FIG. 1.

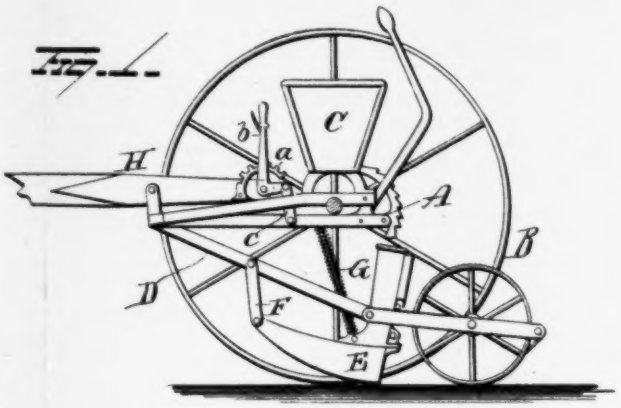


FIG. 2.

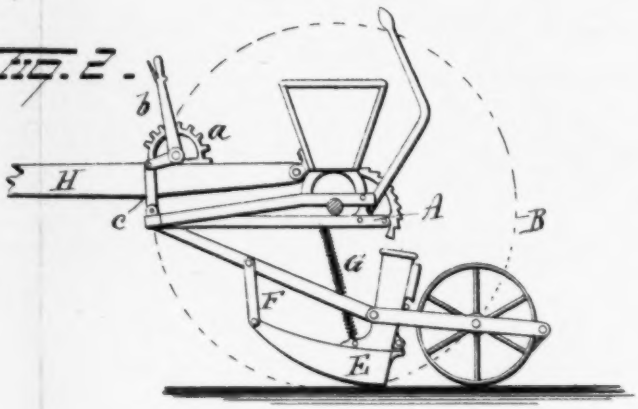
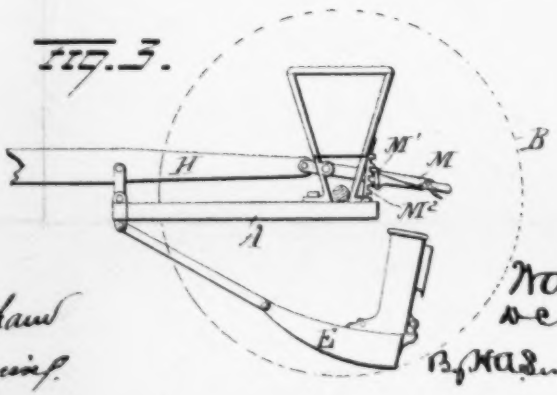


FIG. 3.



Witnesses:
E. Mottinghaw
G. F. Doronius

Inventors:
D. C. Van Brunt.
W. A. Van Brunt.
By H. A. Seymour.
Attorney

(No Model.) 4 Sheets—Sheet 2.

D. C. & W. A. VAN BRUNT.

GRAIN DRILL.

No. 461,292. Patented Oct. 13, 1891.

Fig. 4.

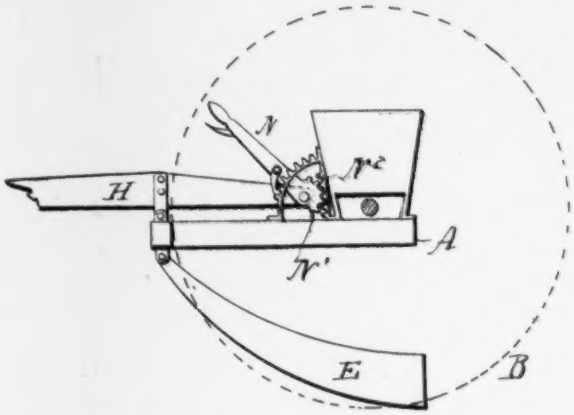


Fig. 6.

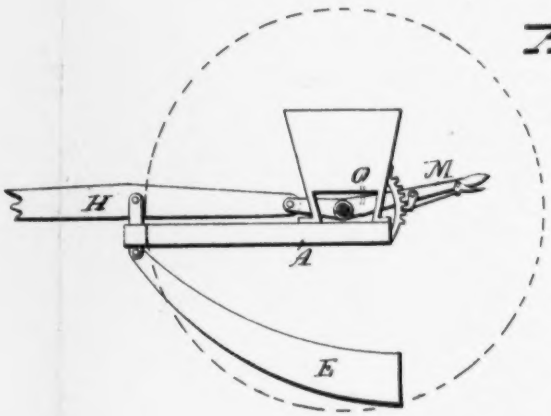
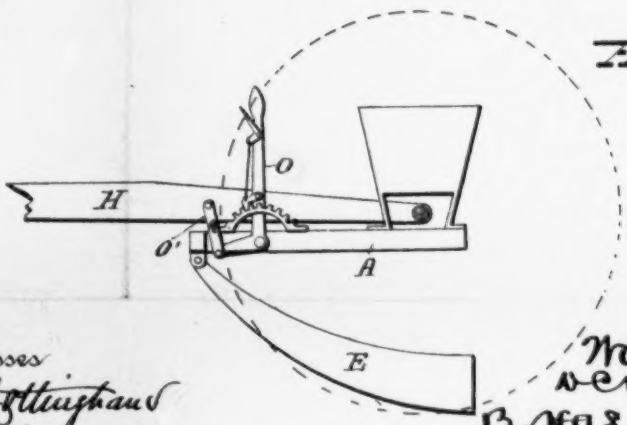


Fig. 5.



Witnesses
E. Mottinghaus
G. F. Downing

Inventors.
W. A. Van Brunt.
D. C. Van Brunt.
By H. A. Seymour.
Attorney

(No Model.) 4 Sheets—Sheet 3.

D. C. & W. A. VAN BRUNT.

GRAIN DRILL.

No. 461,292. Patented Oct. 13, 1891.

Fig. 1.

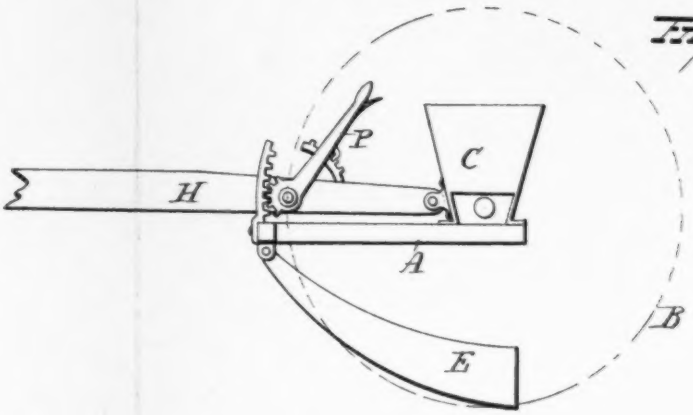


Fig. 2.

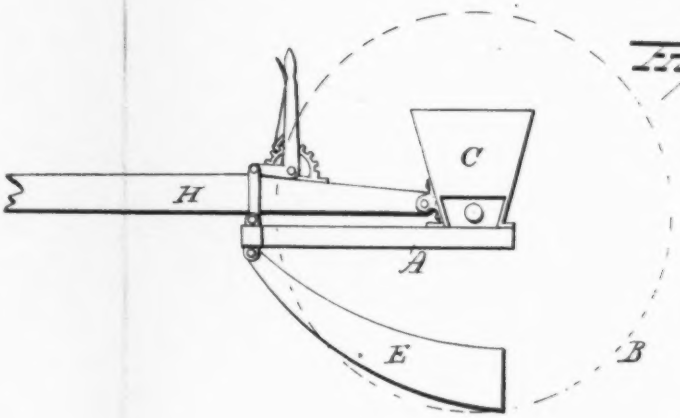
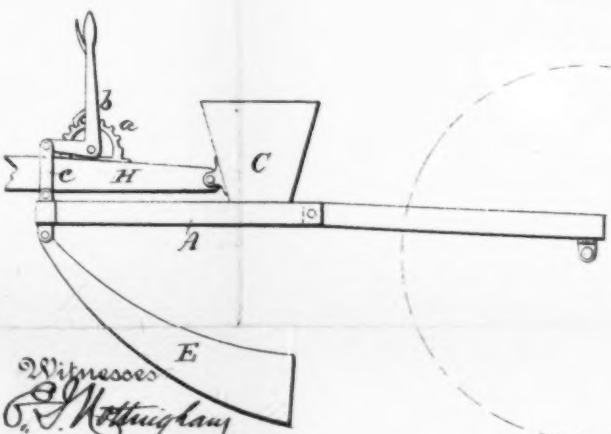


Fig. 3.



Witnesses
C. E. Mottinghaus
G. F. Downing

Inventors
W. A. Van Brunt
D. C. Van Brunt
By F. A. Seymour
Attorney

(No Model.)

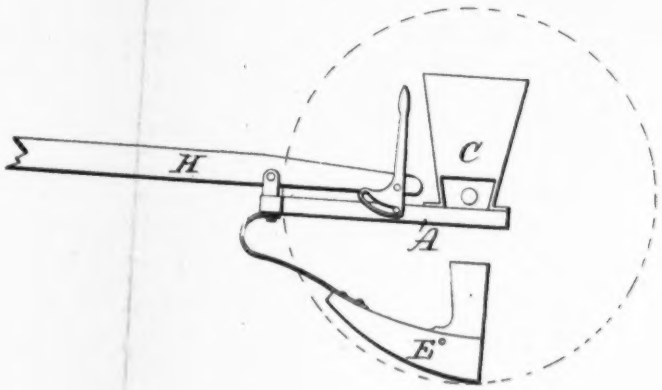
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D. C. & W. A. VAN BRUNT.

GRAIN DRILL.

No. 461,292. Patented Oct. 13, 1891.

Fig. 10.



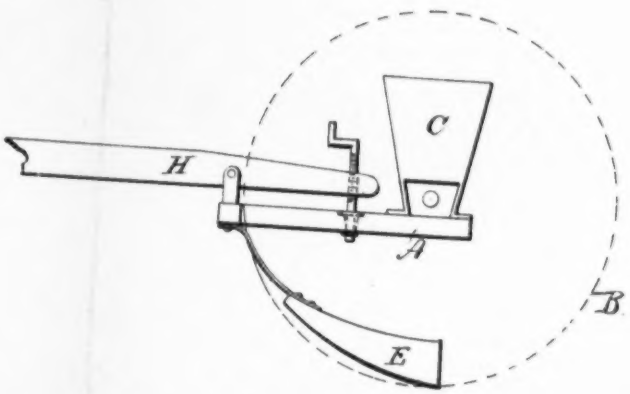


Fig. 11.

Witnesses
C. Mottinghaw
G. F. Downing

Inventors.
W. A. VanBrunt.
D. C. VanBrunt.
By H. A. Seymour.
Attorney

UNITED STATES PATENT OFFICE.

DANIEL C. VAN BRUNT AND WILLARD A. VAN BRUNT, OF HORICON, WISCONSIN.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 461,292, dated October 13, 1891.

Application filed August 6, 1891. Serial No. 401,866. (No model.)

To all whom it may concern:

Be it known that we, DANIEL C. VAN BRUNT and WILLARD A. VAN BRUNT, of Horicon, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Grain-Drills; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in grain-drills, the object of the same being to provide devices for readily and quickly changing the angle of the cutting-edge of the shoe or runner without stopping the team; and it consists, broadly, in devices for tilting or changing the angle or inclination of the shoes, independently of the lifting devices.

In the accompanying drawings, Figure 1 is a view in side elevation of a drill embodying our invention. Fig. 2 is a similar view of a modified form of same, and Figs. 3, 4, 5, 6, 7, 8, 9, 10, and 11 are views of modifications.

A represents the frame of the machine, mounted on wheels B and provided with hopper C, which latter discharges grain in drills in the usual manner. Projecting rearwardly and downwardly from the front of the frame are a series of drag-bars D, pivotally secured at their front ends to the frame and attached at their rear ends to the shoes or cutters E at or near the rear ends of the latter. The shoes or cutters E are rigidly secured at their front ends to the drag-bars D by the braces F, and are yieldingly held in contact with the ground by the springs G.

From the foregoing it will be seen that the inclination of the shoe or cutter is dependent on the position of the front end of the frame A. If the front end of the frame be elevated, the front ends of the shoes or runners will also be elevated, and hence in a better position to ride easily over the soil and over any accumulation of trash in its path.

Ordinarily the tongue H is rigidly secured to the frame and is carried by the team. Hence there is no provision for changing the relative position of the tongue and the front end of frame A, and hence no provision for changing the angle or inclination of the shoes or runners. In order to accomplish this change of inclination or angle of the shoes or runners, we pivotally secure the tongue at a point in advance of its rear end to the front end of the frame and provide the rear end of said tongue with a toothed sector *a* and bell-crank lever *b*, the latter being pivoted to the tongue concentric with the arc of the toothed sector and provided with a latch for engaging the teeth of the sector and means for disengaging the same from the teeth. The short arm of the bell-crank lever is connected to frame A by link *c*, and hence it follows that when the long arm of the lever is pushed forwardly the rear end of the tongue is depressed and the front end of the frame A, and necessarily the front ends of the shoes or runners, elevated. By moving the lever in the opposite direction the movements of the parts are the reverse. This movement of the parts is accomplished independently of the devices employed for lifting the parts, and hence does not affect in the slightest the feed of the grain. The same result can be accomplished by the mechanism shown in Fig. 2. In this device the tongue is pivoted to the frame at its rear end, and the segment and bell-crank lever are located over the forward end of frame A.

By the mechanism above described, we can change the angle of the shoes or runners to meet the conditions of the soil, and this without any delay and without stopping the team. As an example, trash gathered in front of the runners or shoes could be passed over without lifting the shoes or runners by simply moving the tilting-lever, thus giving the shoes or runners an angle best adapted to ride over the trash. Then, as soon as the obstruction has been cleared, they can be returned to their original position or a position where best results can be obtained.

In the two figures of drawings above referred to we have shown the shoe connected to the frame by means of drag-bars. Drag-bars are not, however, essential to the operation of our device, as the shoes can be secured at their front end to the frame, as shown in Figs. 4, 5, 6, 7, and 8, to be hereinafter referred to. Nor are pressure-springs essential, as our invention comprehends, broadly, means for adjusting the pole and the frame carrying the

hopper and shoes, whereby the angle or inclination of the shoes can be varied at pleasure and without stopping the team. In Figs. 1 and 2 we have shown the ground-wheels supporting the frame carrying the hopper and shoes, whereas in Fig. 9 we have shown our improvement applied to a drill in which the ground-wheels and main axle are connected to and carry a separate frame from the one to which the shoes and hopper are attached and in the rear thereof.

In Figs. 3, 4, 5, 6, 7, and 8 nothing but the parts material to our invention are disclosed. In Fig. 3 the shoes are connected at their forward ends to the frame by means of drag-bars and the pole pivoted at a point in advance of its rear end, as in Fig. 1. In this device, however, we have dispensed altogether with the bell-crank lever and pivoted the free rear end of the pole to the straight lever M, the latter being pivoted to the hopper or to a bracket projecting upwardly from the frame. The lever M is provided with a hook M′ for engaging the teeth of the straight rack-bar M^2, located in the rear of the hopper for holding the lever M in position. Instead of using the rack-bar, as shown, it is evident that a toothed sector can be employed therefor and answer all purposes.

In Fig. 4 we have shown the pole pivoted at a point over the front of the frame and the rear end thereof carrying a lever N, provided with a toothed sector N′ for engaging a rack-bar N^2, secured to the front of the hopper or other convenient part. By turning the lever the engagement of the sector with the rack-bar moves the rear end of the tongue up or down, and consequently causes a corresponding depression or elevation of the front end of the frame and the shoes or runners. The lever is provided with suitable locking devices adapted to engage a toothed sector carried by the frame or hopper or both.

Fig. 5 shows the tongue or pole pivoted at its rear end to the axle of the ground-wheel or to bearings concentric with said axle, and a bell-crank lever O, pivoted at its elbow to the frame and connected to the tongue by link O′. In this instance the frame is provided with a toothed sector adapted to be engaged by the devices for locking the lever against movement.

The construction disclosed in Fig. 6 is similar to that shown in Fig. 3, the main difference being that in Fig. 3 the lever M is pivoted at a point in advance of the axle, while in Fig. 6 it is journaled on the axle.

Fig. 7 discloses the tongue pivoted at its rear end and carrying a lever P, having a toothed segment, which latter engages a slightly-curved toothed bar secured to the front end of the frame.

In Fig. 8 and also in Figs. 4, 5, 6, and 7 we have shown the shoes connected directly to the frame, the drag-bars of Figs. 1, 2, and 3 being dispensed with.

By means of the devices disclosed we are enabled to change the angle of the shoe to the tongue and face of the ground by means of a lever without raising or lowering the shoes or affecting the weight or pressure applied to said shoes to force it into the soil.

In Fig. 10 we have shown the shoe and boot connected to a drag-bar made of spring metal, while in Fig. 11 we have shown the rear end of the tongue connected to the frame by a screw swiveled at its lower end.

Some machines are made double—that is to say, with two frames and two poles for four horses. In such machines the runners or shoes are raised in sections or gangs, and we prefer in such cases to employ independent devices for tilting the gangs in the same way. It is sometimes desirable to tilt one end of a wide machine to clear a clod or bunch of trash or to level up a machine when a large team is attached to one pole or tongue and a small team is attached to the other pole or tongue. In this case the machine would have to be leveled up or adjusted in some shape to offset the irregularity in the height of the tongues at the front end. Some prefer and do arrange the frame in sections, and hence the desirability of tilting in sections.

While we have described several forms of accomplishing the desired end, it is evident that other slight changes might be resorted to without departing from the spirit and scope of our invention. Hence we do not wish to confine ourselves to the details shown, but consider ourselves at liberty to make such slight changes and alterations as fall within the spirit and scope of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a grain-drill composed substantially of a series of runners arranged to admit of their conformity to the face of the soil and provided with boots through which the seed is distributed, and a seed-hopper, feed mechanism, frame, and hinged tongue, a means for tilting the runner during the operation of the machine independent of the ordinary lifting device, and consisting, essentially, of a lever and locking mechanism or their equivalent operating upon the hinged tongue and frame, substantially as described, whereby the runners in gangs or all at once may be placed and retained at any angle desired.

2. In a grain-drill composed substantially of a series of runners arranged to admit of their conformity to the face of the soil and provided with boots through which the seed is distributed, and a seed-hopper, feed mechanism, frame, and hinged tongue, means for raising and lowering the front end of the runners during the operation of the machine independent of the ordinary lifting device, and consisting, essentially, of a lever and locking mechanism operating upon the hinged tongue and frame, substantially as described, whereby the runners in gangs or all at once may be placed and retained at any angle desired.

3. In a grain-drill composed substantially of a series of runners provided with boots through which the seed is distributed, drag-bars arranged to admit of the runners rising and falling, a seed-hopper, feed mechanism, frame, and hinged tongue, a means independent of the ordinary lifting device, consisting, essentially, of a lever and locking mechanism or their equivalent, operating upon the hinged tongue and frame, substantially as described, for tilting the runners in gangs or all at once during the operation of the machine and retaining them at the desired angle to the face of the soil.

4. In a grain-drill composed substantially of a series of runners provided with boots through which the seed is distributed, drag-bars hinged to admit of the runners rising and falling, a seed-hopper, feed mechanism, frame, and hinged tongue, a means independent of the ordinary lifting device, consisting, essentially, of a lever and locking mechanism, operating upon the hinged tongue and frame, substantially as described, for raising and lowering the front end of the runners in gangs or all at once during the operation of the machine and retaining them at the desired angle to the face of the soil.

5. In a grain-drill composed substantially of a series of runners provided with boots through which the seed is distributed, drag-bars arranged to admit of the runners rising and falling, a seed-hopper, feed mechanism, frame, and hinged tongue, a means independent of the lifting device, consisting, essentially, of a lever and locking mechanism or their equivalent, operating upon the hinged tongue and frame, substantially as described, for raising or lowering the front end of the runners in gangs or all at once during the operation of the machine and retaining them at the desired angle to the face of the soil.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

DANIEL C. VAN BRUNT.
WILLARD A. VAN BRUNT.

Witnesses:
F. E. MARSH,
JOHN BODDEN.

1289

(No Model.) 4 Sheets—Sheet 1.

W. A. VAN BRUNT.

GRAIN DRILL.

No. 490,728. Patented Jan. 31, 1893.

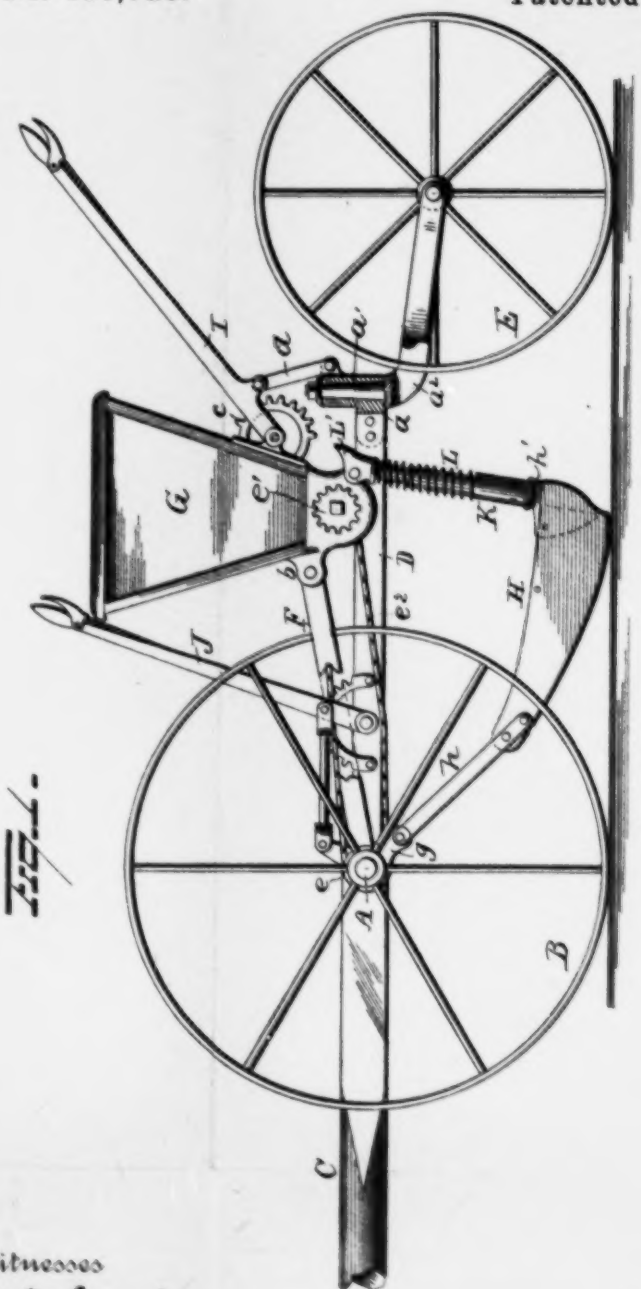
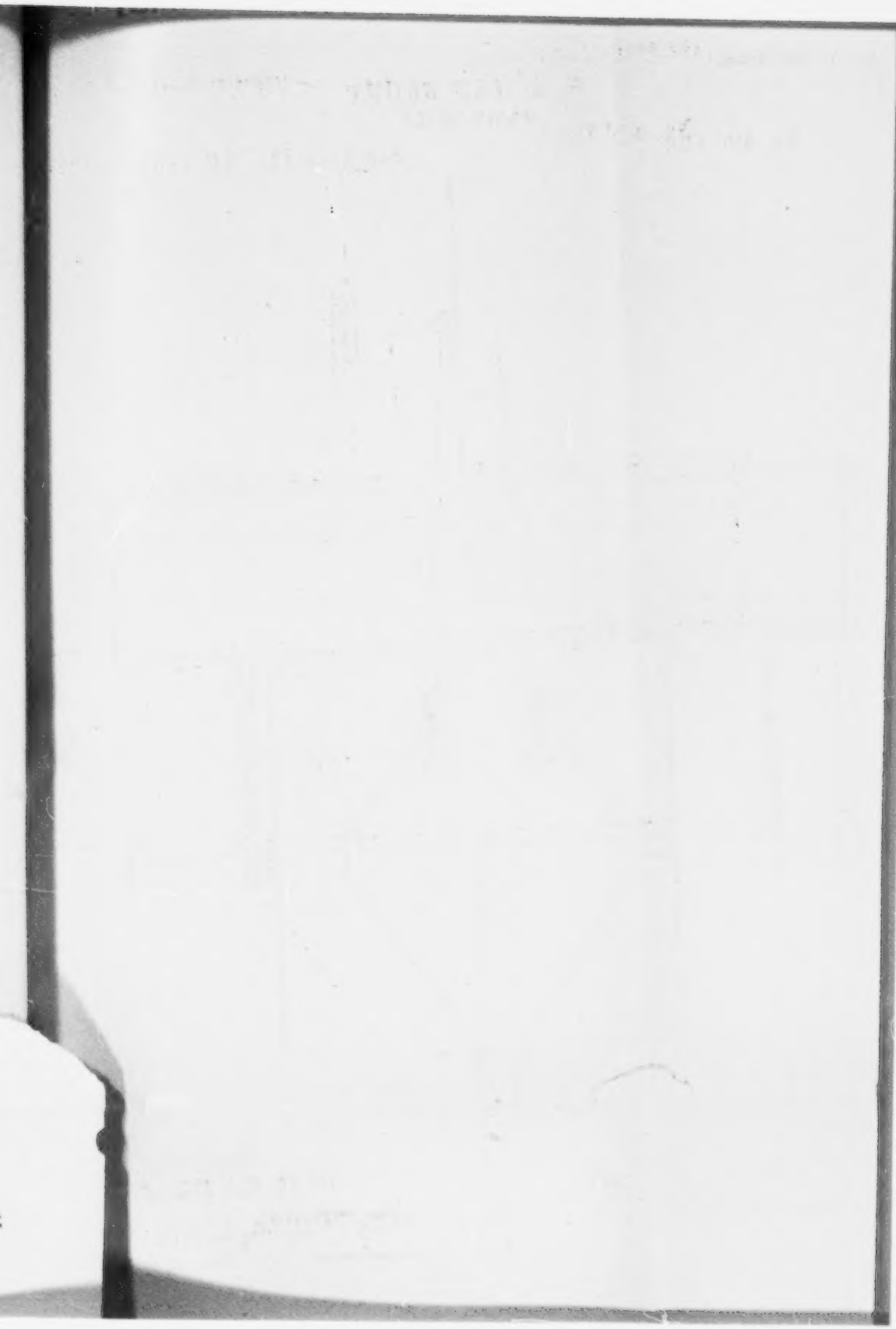


Fig. 1.

Witnesses
G. F. Downing
S. G. Nottingham

Inventor
W. A. Van Brunt
By H. A. Seymour
Attorney



(No Model.)

4 Sheets—Sheet 2.

W. A. VAN BRUNT.

GRAIN DRILL.

No. 490,728.

Patented Jan. 31, 1893.

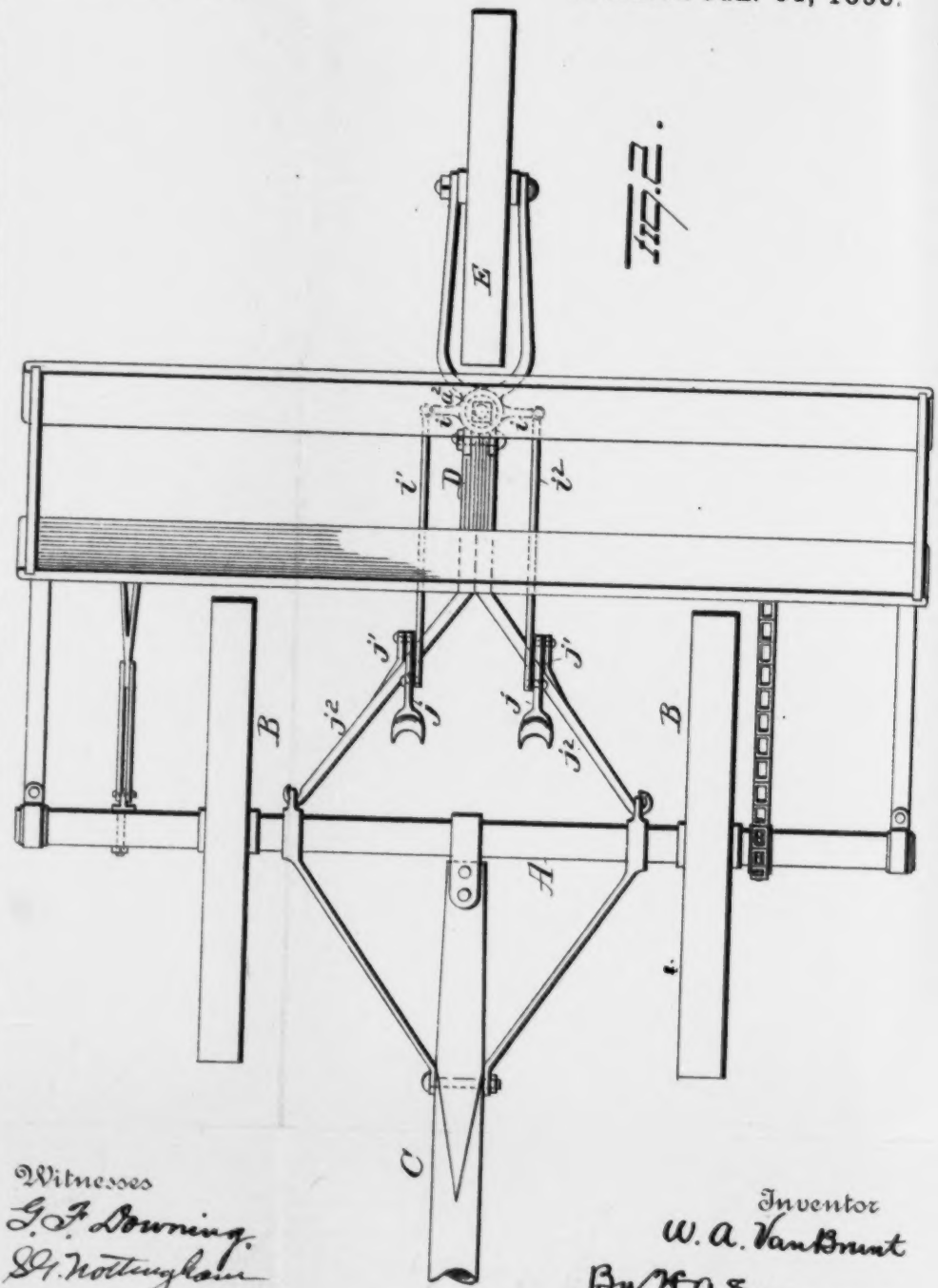


Fig. 2.

Witnesses
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Inventor
W. A. VanBrunt
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(No Model.)

4 Sheets—Sheet 3.

W. A. VAN BRUNT.

GRAIN DRILL.

No. 490,728. Patented Jan. 31, 1893.

Fig. 4.

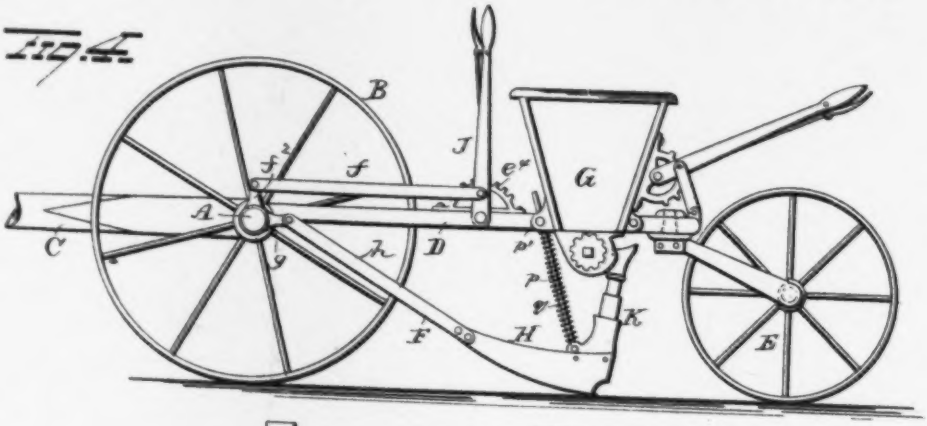
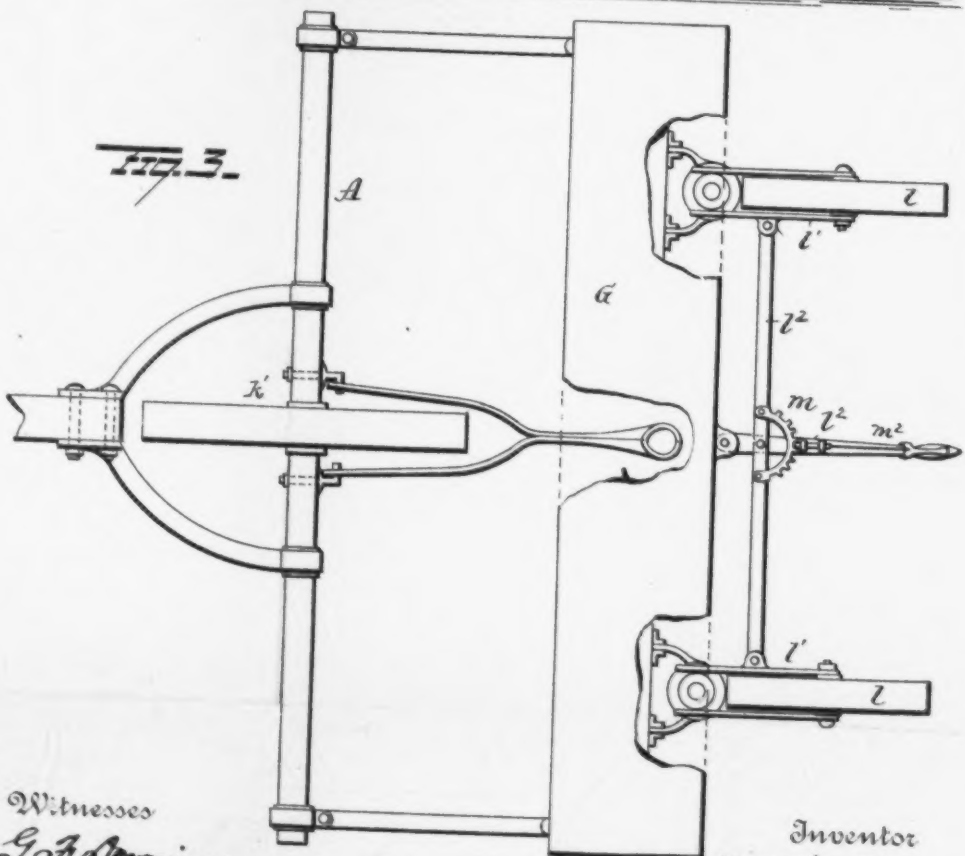
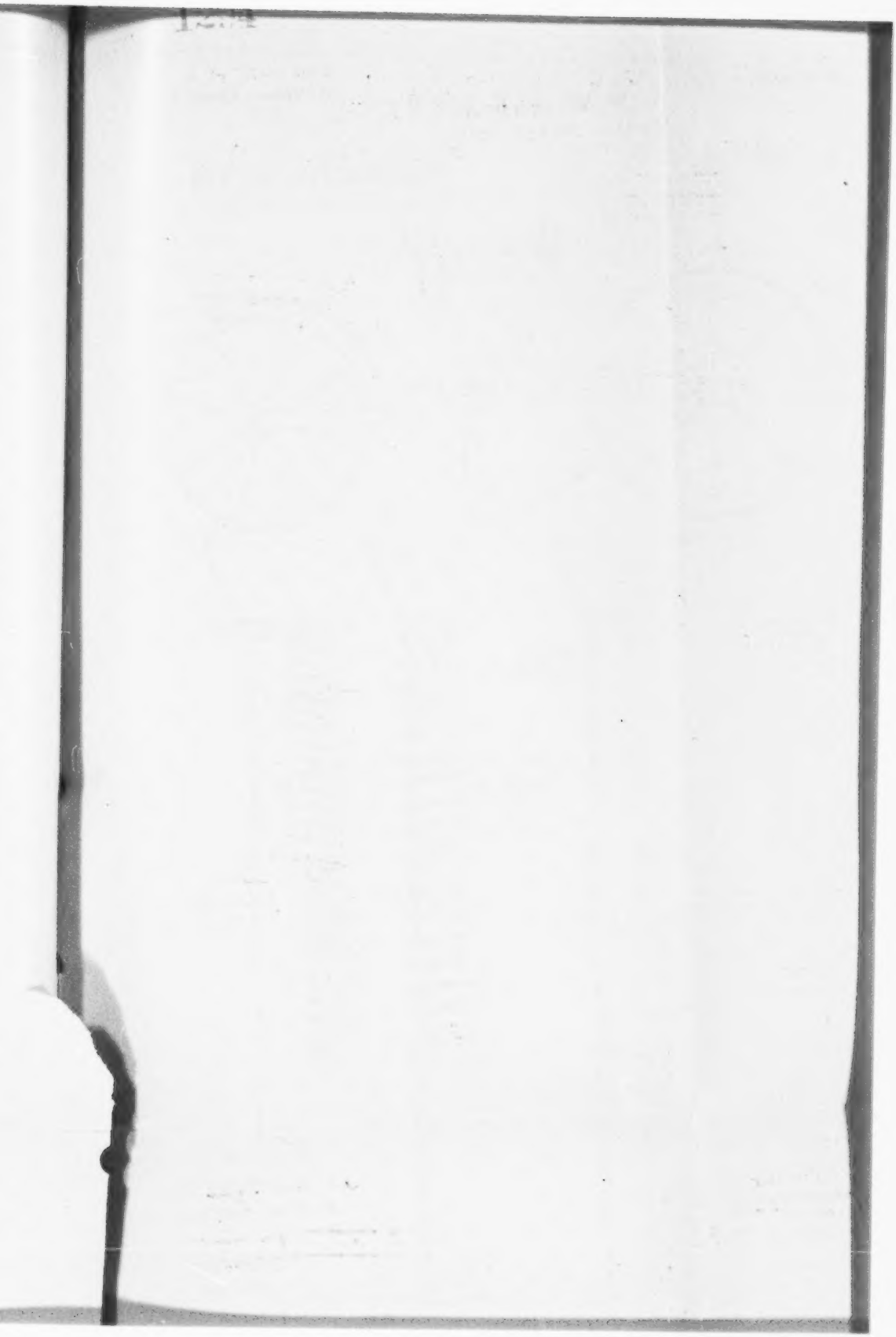


Fig. 3.



Witnesses
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H. Nottingham

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W. A. Van Brunt
By H. A. Seymour
Attorney



(No Model.)

W. A. VAN BRUNT.

GRAIN DRILL.

4 Sheets—Sheet 4.

No. 490,728.

Patented Jan. 31, 1893.

Fig. 5.

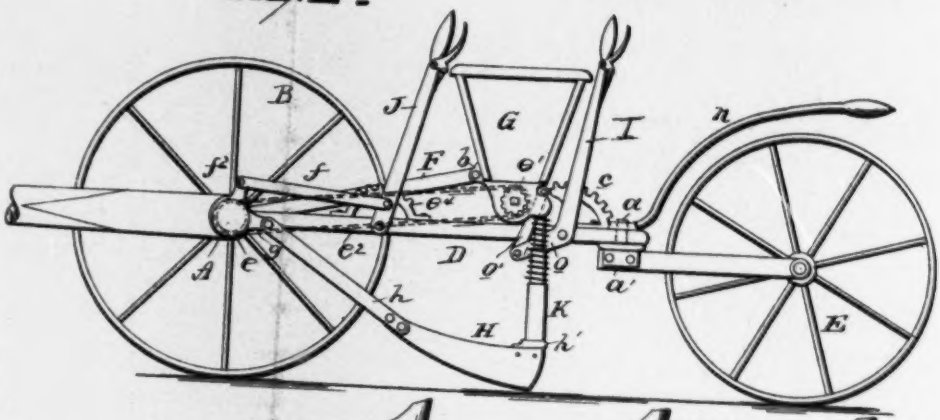


Fig. 9.

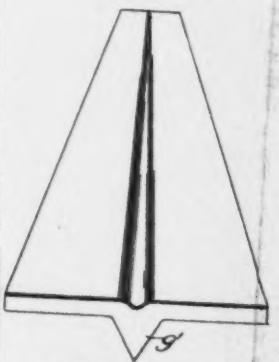


Fig. 10.

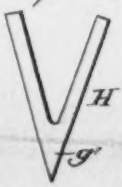


Fig. 6.

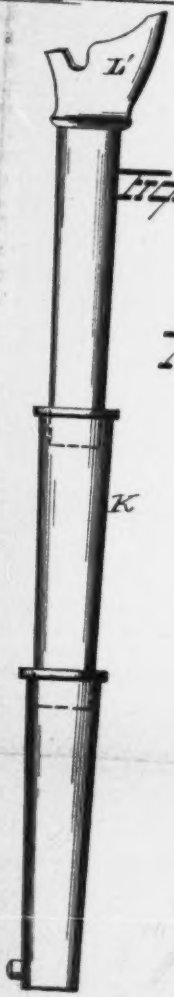
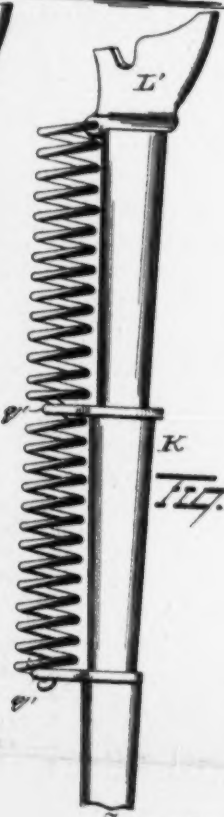


Fig. 7.



Fig. 8.



Witnesses
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J. Hollingshaus

Inventor
W. A. Van Brunt
By H. A. Seymour
Attorney

UNITED STATES PATENT OFFICE.

WILLARD A. VAN BRUNT, OF HORICON, WISCONSIN.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 490,728, dated January 31, 1893.

Application filed August 2, 1892. Serial No. 441,941. (No model.)

To all whom it may concern:

Be it known that I, WILLARD A. VAN BRUNT, residing at Horicon, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in grain drills,—its object being to construct the machine in such manner as to avoid any tendency of the machine sagging down in the center as is the case with machines where the ground wheels are at the ends of the machine.

A further object is to so construct the machine that it will be better adapted to uneven ground, than similar machines now in use of which I am aware.

A further object is to construct the machine in such manner that the horses will be relieved of all weight of the machine upon their necks.

A further object is to provide simple and efficient means for guiding the machine.

A further object is to provide simple devices for raising and lowering the front ends of the shoes.

A further object is to construct the grain tubes in such manner that they will also serve as pressure springs.

A further object is to produce a shoe for a grain drill, which shall be simple in construction as well as substantial, and which shall be effectual in the performance of its functions and which shall be durable.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is a side elevation partly in section of my improved drill. Fig. 2 is a plan view showing the caster wheel and foot operated devices for manipulating said caster wheel. Fig. 3 is a plan view showing a single main or carrying wheel, two caster wheels and hand operated mechanism for shifting said castor wheel. Figs. 4 and 5 are views illustrating certain modifications. Figs. 6 and 7 are views illustrating the feed tube and pressure spring. Fig. 8 is a view of a modification of the feed tube. Fig. 9 is a view of the blank from which the shoes are made. Fig. 10 is an end view of a shoe.

A represents the axle of the machine which supports, at points intermediate of its ends, the main carrying wheels B, as clearly shown in Fig. 2. The tongue C of the machine is pivotally connected with the axle, and extending rearwardly from the axle, is the reach D. To the rear end of the reach a bracket a is secured and adapted to receive the pintle a' which projects from the supporting bracket a^2 of a caster wheel E. Braces F are connected at their forward ends with the axle A and at their rear ends are secured to brackets b fixed to a seed box G. The seed box G has secured to its rear face a toothed segment c with which the latch bar of a pivoted lever I is adapted to engage. A link d is pivotally connected at one end with the lever at a point in proximity to its pivoted end and at the other end said link is pivotally connected to the bracket a or to the rear end of the reach. Thus it will be seen that the seed box G will be supported by the main axle A and the caster wheel E, through the medium of the intermediate connections described, and that by means of the lever I the rear end of the machine may be readily elevated or tilted.

A sprocket wheel e is carried by the hub of one of the carrying wheels and conveys motion to the feed mechanism e' in the hopper, through the medium of a sprocket chain e^2. A lever J is pivotally connected to the reach D at a point forwardly of the seed box G and carries a latch bar adapted to engage a toothed segment e^4 secured to the reach. A rod f is pivotally connected at one end to the lever J at a point in proximity to the segment e^4,—the other end of said rod being pivotally connected with an arm f^2 projecting upwardly from the axle A. A number of arms g project from the axle A and are adapted to project downwardly and rearwardly therefrom, to each of which arms a draw bar h is connected, the other ends of said draw bars being connected with the forward ends of a series of shoes H, and communicating with the rear ends of said shoes are feed tubes K, the

upper ends of which latter are connected with the feed cups of the hopper at the discharge outlet thereof.

By constructing and arranging the devices for elevating the forward ends of the shoes H as above described, it will be seen that said forward ends of the shoes can be elevated by operating the lever J without disturbing the horizontal position of the seed box or hopper or in any way affecting the same.

Shoes of the kind employed by me have usually been made of two plates welded together at their lower edges. With such prior devices, the meeting edges of the plates or where said plates are welded together, have been very slight. That is to say the amount of surface of one plate exposed to the other plate where said plates are welded together have been very small, and thus the solidity and durability of the shoes have been greatly impaired. To avoid this great defect I construct the shoe of a single piece of metal with a thickened portion g' in proximity to the cutting edge, said thickened portion tapering from the rear end toward the forward end of the shoe.

The shoes may be made by taking a plate or blank of steel smaller at one end than at the other and providing said plate or blank at its center with a V-shaped enlargement or thickened portion g'. The plate or blank is then folded at the center to produce the shoe, which, in cross section or end elevation, is V-shaped, as shown in Fig. 10.

The feed tubes K which convey the seed from the box or hopper G are adapted at their lower ends to pass through a bracket or plate h' carried by the rear ends of the shoes, and deliver the grain into the furrows made by the shoes. Each feed tube is made in sections as shown in Fig. 6, and said sections are made telescoping. Encircling the upper sections of each tube is a coiled spring L, the lower end being adapted to rest on the upper end of the lower section of the tube and the upper end of said spring being adapted to bear against the mouth L′ of the tube. The lower section of each tube may be secured in the bracket h' or otherwise fastened to the shoe. From this construction it will be seen that the tubes K with the springs L perform two functions,—viz. to conduct the grain from the seed hopper to the furrow in the ground and also as yielding devices for the shoes. They impart a yielding pressure to the shoes from the weight of the machine as applied by the lever I. The yielding or spring tube may be attached directly to the shoe at its lower end and to the feed mechanism at its upper end, or to intermediate connections between the spring and shoe, and spring and feed.

Instead of employing the combined feed tube and pressure device as above described, the telescoping tube may be employed as shown in Fig. 4, and a rod p may be attached at its lower end to each shoe, said rods passing freely through a flange or projection p', on the hopper, a coiled spring q encircling said rod p, said spring bearing at its respective ends against the shoe and flange or projection p'. The spring q may be coiled to hold the tube telescoped together when no pressure is exerted to draw them apart or the spring may be coiled to hold the sections apart and remain in that position until power is exerted to close them up.

Instead of arranging the pressure spring and feed tube as above explained, the arrangement shown in Fig. 8 may be adopted. In this form the pressure spring q is located to one side of the tube K, and connected with the sections of the tube by means of loops q'.

In the operation of grain drills it often occurs that the team drifts from the course a little or the machine does not closely follow the line taken by the team, thus producing laps or balks and hence producing uneven distribution of the seed and thereby affecting the yield. To remedy these defects I provide the devices now to be described, whereby any slight variation can be easily and quickly made without changing the general course of the team, my improvements for this purpose being especially advantageous on sides of hills where there is a strong tendency to drift.

The supporting bracket a^2 of the caster wheel E is provided with laterally projecting arms or ears i, to each of which, one end of a rod i' is attached,—the other or forward ends of said rods being pivotally connected with foot levers j, which latter are pivotally connected to brackets j' secured to the forked portions j^2 of the reach D. By these means the driver on the machine can readily keep the drill in its proper course, and his hands will be left free to guide the team, and manipulate the operating levers to tilt the machine or elevate the forward ends of the shoes.

In lieu of the arrangement of the machine as above explained, a single main carrying wheel may be provided and mounted on the axle A centrally between its ends as shown at k', Fig. 3. In this form of the invention I have illustrated two caster wheels l, l, the supporting brackets l' of which are connected by a rod or bar l^2 pivotally connected at its ends to said supporting brackets. At a point between its ends the rod or bar l^2 is provided with a toothed segment m, with which the latch bar l^3 of the pivoted operating lever m^2 is adapted to engage. It will be seen that by manipulating the operating lever m^2, the caster wheels l, l, will be shifted in unison and the machine thus made to keep its proper course. Again the pintle a projecting from the bracket a' of the caster wheel E, may have an operating lever n secured thereto and projected rearwardly over the caster wheel, as shown in Fig. 5. In the form of the invention shown in Fig. 5, the toothed segment c is secured to the reach instead of to the seed box as shown in Figs. 1 and 4. In Fig. 5 the lever I is shown pivotally connected to the reach D and as having a downwardly and forwardly

projecting arm *o*. To the forward end of the arm *o*, a bar *o'* is attached, and the upper end of said bar *o'* is attached to the hopper.

In the form of the invention shown in Fig. 4, the seed hopper is located directly on the reach D.

From the construction of the machine as above set forth it will be seen that it will be prevented from sagging at the center and is well adapted to run over uneven ground. These ends are accomplished by bringing the carrying wheels within the machine (as above alluded to) so that the span between the wheels will be equal to that portion of the machine extending beyond or outside of the wheels. Thus it will be seen that the weight of the machine will be averaged directly over the wheels and that the span between the wheels is one half that of other machines of which I am aware of equal width, hence only one half of the variation owing to uneven ground.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, hence I do not wish to limit myself to the precise details of construction herein set forth, but,

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a grain drill, the combination with an axle, carrying wheels mounted on said axle, a reach and a caster wheel carried by the rear end of said reach, of a seed box, braces extending from the seed box to the axle, and devices for elevating the rear end of the machine, connecting said seed box with the rear end of the reach, substantially as set forth.

2. In a grain drill, the combination with an axle, carrying wheels mounted on said axle, a reach and a caster wheel carried by the rear end of the reach, of a seed box, braces extending from the seed box to the axle, a toothed segment secured to the seed box, a pivoted lever having a locking bar to engage said segment, and a link connecting said pivoted lever with the bracket which supports the caster wheel, substantially as set forth.

3. In a grain drill, the combination with an axle, and carrying wheels, of a seed hopper, a caster wheel for supporting the rear end of the machine, and a lifting lever connected with the bracket which supports said caster wheel, and a toothed segment for locking said lever in position, substantially as set forth.

4. In a grain drill, the combination with an axle, carrying wheels mounted on said axle, a reach and a seed box or hopper, and a series of shoes, of a lever pivoted to the reach, a segment for retaining said lever in a locked position, an arm projecting from the axle, a rod connecting said arm with the pivoted lever, arms projecting downwardly and rearwardly from said axle, and draw bars connecting said last-mentioned arms with the shoes, substantially as set forth.

5. The combination with an oscillatory axle having arms thereon, and wheels in which the axle is supported, of a shoe, a link or bar connecting the forward end of the shoe to one of the arms, a pivoted hand lever, and a link or bar connecting this hand lever with an arm on the axle, substantially as set forth.

6. The combination with the frame of a seeder, oscillatory axle having arms thereon, and wheels in which the axle is supported, of shoe having yielding connection at one end or point with the frame, a link or bar connecting the opposite end of the shoe with an arm on the axle, a hand lever pivoted to the frame, and link or bar connecting this hand lever to an arm on the axle, substantially as set forth.

7. A shoe for grain drills constructed of a flat tapering strip of metal with a thickened central portion which constitutes a cutting edge, the sides extended at an angle to each other from this thickened portion, substantially as set forth.

8. A shoe for grain drills constructed of a flat tapering strip of metal having a central channel and thickened at this point, the sides bent at an angle to each other, substantially as set forth.

9. A feed tube for a grain drill composed of several independent tubes adapted to telescope, and springs for holding these tubes yieldingly in place, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLARD A. VAN BRUNT.

Witnesses:
A. W. WILCOX,
F. H. ROBERTS.

No. 676,593.

W. A. VAN BRUNT.

Patented June 18, 1901.

(No Model.)

GRAIN DRILL.

(Application filed Sept. 1, 1900.)

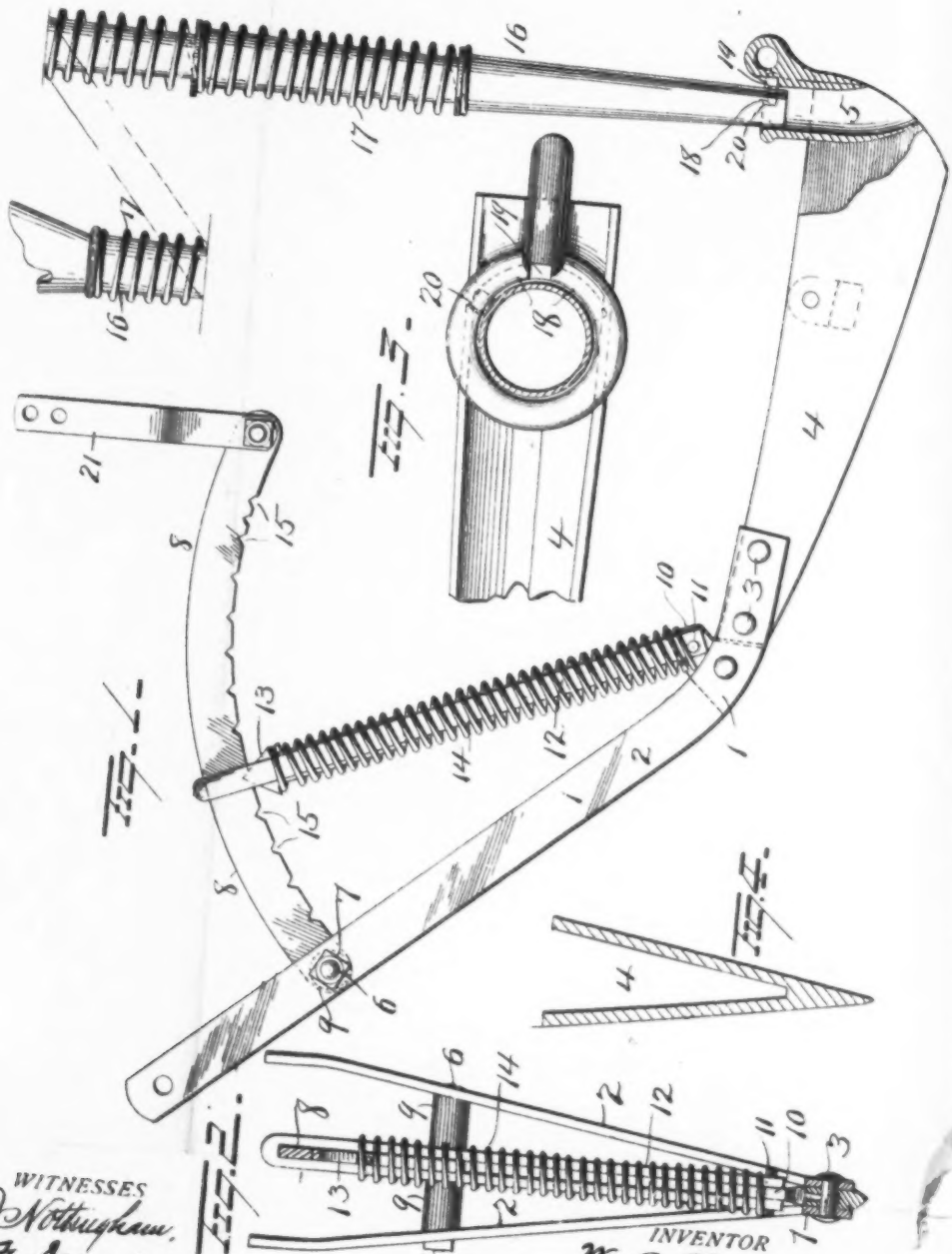


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES

E. J. Nottingham.

G. F. Downing.

INVENTOR

W. A. Van Brunt

By H. A. Seymour

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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UNITED STATES PATENT OFFICE.

WILLARD A. VAN BRUNT, OF HORICON, WISCONSIN.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 676,593, dated June 18, 1901.

Application filed September 1, 1900. Serial No. 28,782. (No model.)

To all whom it may concern:

Be it known that I, WILLARD A. VAN BRUNT, a resident of Horicon, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in grain-drills, the object of the invention being to provide improved means for regulating the spring-pressure of the shoe in the ground; and with this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, illustrating my improvements. Fig. 2 is a sectional view, and Figs. 3 and 4 are views of details of construction.

1 represents an inclined drag-bar comprising two bars 2, spaced their greatest distance apart at their forward end and gradually inclining toward each other to their rear ends, where they have secured between them by means of bolts or rivets 3 a shoe 4, which latter is made V shape in cross-section, narrowest at its forward end and widest at its rear end, in which is secured a heel 5, having an opening in its rear wall to drop the grain in rear of the shoe. A bolt 6 is passed through the bars 2 near their forward ends and secured in place by nut 7. Said bolt is also passed through a hole in one end of a curved lever 8, spaced centrally between the bars 2, by means of spacing-sleeves 9, mounted on the bolt. A lug 10 is secured between the bars 2 at the forward end of the shoe and made with a hole for the reception of a bolt or pivot-pin 11, on which is pivoted a frame 12, which latter comprises a rod bent upon itself between its ends to form two parallel members, one end of said frame being pivoted on the bolt 11, as above explained, and the other end surrounding the lever 8. A toothed plunger or dog 13 is located between the parallel members of frame 12, and a coiled spring 14 is mounted on said frame, bearing at its lower end against bolt 11 and connected at its upper end to the plunger or dog 13, so as to force the latter into any one of a series of notches 15 in the lower face of lever 8, so as to hold the frame in any position on the lever to which it may be moved, and the spring will hold the shoe in the ground at any pressure desired, according to the position the frame is adjusted on the lever, as will more fully hereinafter appear.

A grain-conductor 16 connects the grain-receptacle (not shown) of the drill with the heel 5, said grain-conductor comprising a series of telescoping tubular sections, a coiled spring 17, inclosing the upper and intermediate tubes and secured at its upper end to the upper tube, at its lower end to the top of the lowest tube, and between its ends to the top of the intermediate tube. The heel 5 is made with an internal flange 18, having a notch 19 therein to permit the entrance of a lug 20 on the lower end of the lowest tube, which latter when turned so as to throw the lug 20 out of alinement with the notch 19 will lock the seed-conductor against accidental removal from the heel, as the lug 19 will be disposed beneath the flange 18 and the lower tube-section held thereby.

The free end of lever 8 is connected by link 21 with any approved operating mechanism (not shown) to force the lever down and contract spring 14, thus increasing the pressure of the shoe 4 in the ground.

It will be seen that owing to the fact that the lever 8 is curved in the arc of a circle concentric with bolt 11, on which frame 12 is pivoted, when the frame is moved adjacent to the pivotal point of the lever a downward movement of the lever will contract the spring but slightly, and as the spring is disposed at an incline its downward pressure will be but slight, but as the frame is moved toward the free end of the lever the spring will be contracted to a greater extent and its pressure will be in a more direct line, thus exerting a greater pressure in the ground, and by simply moving the frame toward and away from the pivotal point of the lever the pressure of the shoe can be varied at will.

It is a simple matter for the operator to change the position of the frame 12, as it is simply necessary to force the frame in the di-

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rection desired, when the plunger or dog 13 will leave the notch in the lever in which it has sprung and move to and spring into any other notch desired.

While I have shown and described my improvements in connection with a shoe-drill, it is evident that they are equally adapted for use with a disk or hoe drill, and I do not wish to be limited to the use of my improvements on shoe-drills, and I would also have it understood that the curved lever might be pivoted at the end of drag-bar or on the rigid frame of the drill without departing from my invention.

Various other changes might be made in the details of construction of my improved drill without departing from my invention, and hence I do not wish to be limited to the precise details shown and described.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a grain-drill, the combination with a drag-bar and a shoe secured thereto, of a curved lever pivotally connected to said drag-bar, and a spring disposed between said lever and drag-bar and adapted to be moved to different positions on the lever.

2. In a grain-drill, the combination with a drag-bar and shoe secured thereto, of a curved lever pivotally connected to the drag-bar, a coiled spring pivotally connected at one end to the drag-bar and adjustably connected at its other end to said lever.

3. In a grain-drill, the combination with a drag-bar and a shoe connected thereto, of a spring pivotally connected to the drag-bar, a lever pivotally connected to the drag-bar and curved concentric to the pivotal point of the spring and means for locking the free end of the spring to any position on the lever.

4. In a grain-drill, the combination with a drag-bar and a shoe secured thereto, of a lever pivotally connected to the drag-bar near its forward end, a frame pivotally connected to the drag-bar near the forward end of the shoe, and a spring mounted on said frame in position to be compressed by said lever.

5. In a grain-drill, the combination of a furrow-opener, a curved lever and a spring pivoted to the furrow-opener and adjustably connected to the lever.

6. In a drill, the combination of a furrow-opener, a pivoted curved lever and a spring disposed between said lever and furrow-opener.

7. In a grain-drill, the combination with a drag-bar, a furrow-opener and a lever pivoted to the drag-bar, of a spring connected to said lever whereby a downward pressure on the lever imparts a yielding pressure to the furrow-opener.

8. In a grain-drill, the combination with a drag-bar a furrow-opener, and a lever pivoted to the drag-bar, of a spring connected to the drag-bar and lever whereby a downward pressure on the free end of the lever imparts a yielding pressure to the furrow-opener.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLARD A. VAN BRUNT.

Witnesses:
EUGENE HILL,
CHAS. HAWKS.

No. 642,534.

Patented Jan. 30, 1900.

C. P. SESTER.

FORCE FEED MECHANISM FOR GRAIN DRILLS.

(No Model.)

(Application filed Aug. 26, 1899.)

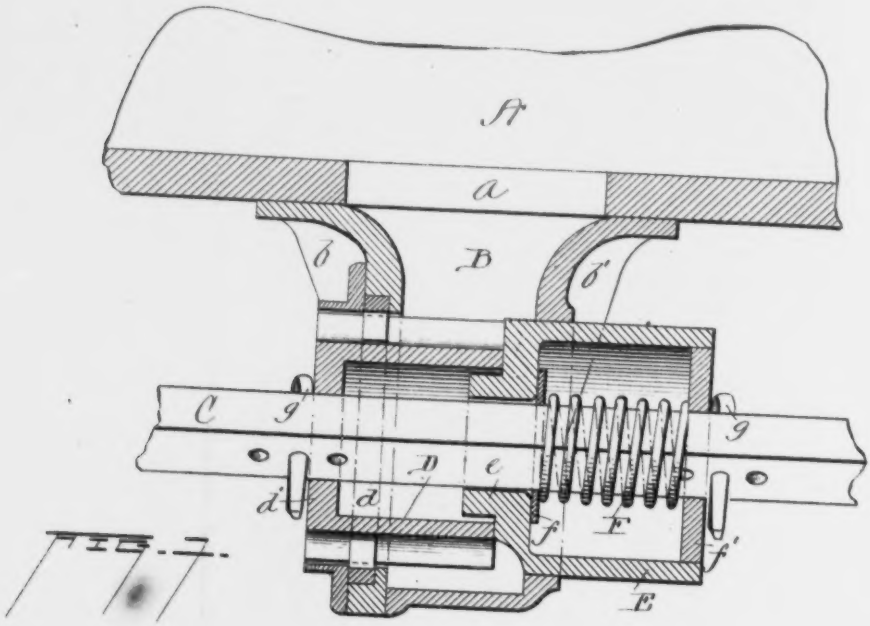


FIG. 1.

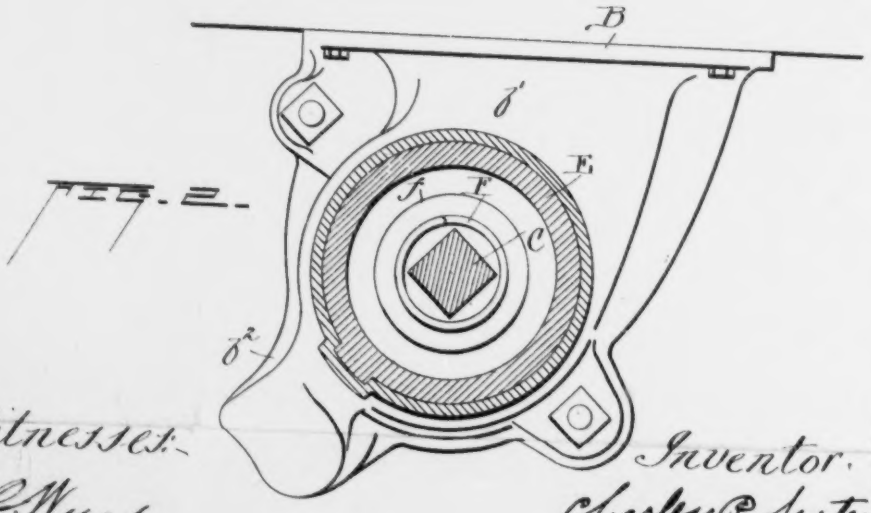


FIG. 2.

Witnesses:
F. C. Wynn
Chas. W. La Porte.

Inventor.
Charles P. Sester
by W. V. Leffler
Atty.

UNITED STATES PATENT OFFICE.

CHARLES P. SESTER, OF PEORIA, ILLINOIS.

FORCE-FEED MECHANISM FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 642,534, dated January 30, 1900.

Application filed August 26, 1899. Serial No. 728,642. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. SESTER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Force-Feed Mechanism for Grain-Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in the construction of force-feed mechanism for grain-drills; and the object of the invention is to provide, in combination with a hopper and a two-part seed-cup secured thereto, a corrugated seed-wheel, a hollow cylinder having a reduced annular bearing fitting within one end of the corrugated wheel, and a coil-spring carried within the cylinder around a rectangular shaft passing through the cylinder and corrugated wheel, the spring bearing against the annular bearing and retaining it in such position by means of a plate or disk. A further object in inclosing the spring is to provide sufficient room on the shaft between the seed-cups for the carrying of necessary parts thereon, the manner in which these springs have heretofore been carried cramping the parts, and the pressure is not as direct as in this instance upon the annular bearing, holding the same in close proximity or in a bearing position to the corrugated wheel, which will prevent any seed or grain, however small, from dropping between the cylinder and seed-wheel, thus binding the same.

That my invention may be more fully understood, reference is had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through a portion of the hopper, cup, and force-feed mechanism applied thereto. Fig. 2 is a vertical cross-section through the cylinder.

In the drawings, A represents a section of a hopper provided with the aperture *a*.

B is a seed-cup secured to the hopper in any suitable manner and communicates with the aperture *a* in the hopper. A number of these cups are provided at intervals the length of the hopper and depend therefrom. The said cups are composed of the parts *b b'* and have a suitable discharge-opening b^2, which connects with the grain-shoes.

C is a longitudinally-carried rectangular shaft movable in its length and is adapted to pass through the successive seed-cups.

D is a fluted or corrugated cylinder seed-wheel having the hollow portion *d* and the inclosed end *d'*, provided with a rectangular opening through which the shaft C extends. The manner of carrying and rotating said seed-wheel is common to those now in use.

E is a cylinder in diameter equal to the diameter of the seed-wheel and has a spline-and-groove connection with the part *b'* of the seed-cup. The cylinder is further provided with the reduced annular bearing *e*, fitting in one end of the fluted seed-wheel. The shaft C, passing through the cylinder, extends through an annular perforation in the bearing *e*, which enables the cylinder through this and the spline-and-groove connection with the part *b'* to remain stationary as the seed-wheel is rotated through the shaft C.

F is a coil-spring carried around the shaft C within the cylinder and abutting at one end against a ring or disk *f*, carried on the shaft and bearing against the annular bearing *e*, the other end being held in proper position by means of the yielding plate *f'*, slidable in the cylinder, the cylinder and seed-wheel being held in proper relation on the shaft by means of the cotter-pins *g*. Thus it will be seen that by inclosing the spring I obviate the necessity of cramping the mechanism carried on the shaft and apply the pressure at the desired point on the annular bearing, holding the cylinder always adjacent to and abutting against the seed-wheel, preventing any grain or seed from lodging between the same.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a force-feed mechanism for grain-drills, the combination with the seed-cup and corrugated seed-wheel, a hollow cylinder carried adjacent to said seed-wheel and having a spline-and-groove connection with said seed-cup, of a coil-spring inclosed within said cylinder adapted to abut against the end thereof adjacent to the seed-wheel and retain the same in such bearing position and the

disk f' shiftable with shaft C, and adjustable within the cylinder, all substantially as described and shown.

2. In a force-feed mechanism for grain-drills, the combination with a seed-hopper and the two-part seed-cups b, b', carried thereby, a corrugated seed-wheel mounted upon and shiftable with shaft C, rotating in said seed-cup, of the cylinder E, provided with the reduced annular bearing e, fitting in one end of the seed-cup and having a bearing relation therewith and a spline-and-groove connection with the part b', of the seed-cup, coil-spring F, carried around the shaft C, within the cylinder and abutting against the annular bearing e, and the disk f', shiftable with the shaft and adjustable within the cylinder closing the same and forming a stop for spring F, all substantially as described and shown.

3. In combination with the shaft C, and fluted or corrugated seed-wheel D, a hollow cylinder having a bearing relation with said seed-wheel and shaft, and provided with a yielding or adjustable inclosing member, a coiled spring inclosed within said cylinder adapted to abut against the end thereof adjacent to the seed-wheel and retain the same in such bearing position, all substantially as specified.

4. The combination with the seed-wheel D, and the cylinder E, provided with the reduced annular bearing e, fitting in one end of the seed-wheel, and the shiftable disk f', closing the outer end thereof, a pressure-spring inclosed within the cylinder E, as specified, the tension thereof adapted to be increased or decreased by the adjustment of the yielding disk f', substantially as described and shown.

5. In combination with shaft C, and fluted or corrugated seed-wheel D, the hollow cylinder E, provided with the reduced annular neck e, having a bearing relation with the seed-wheel and shaft, the disk f', shiftable with shaft and adjustable in the cylinder and a coiled spring inclosed within said cylinder and abutting against the end thereof adjacent to the seed-wheel compressed or relaxed through the movement of the disk, all substantially as described and shown.

6. The combination with the seed-wheel D, and the cylinder E, provided with the reduced annular bearing e, both mounted upon and shiftable with shaft C, fitting in one end of the seed-wheel, of the shiftable disk f', carried at a fixed point on shaft C, closing the open end of and adjustable with cylinder E, and the coil-spring F, inclosed within the cylinder and abutting against the end thereof adjacent to the seed-wheel and against the disk and compressed or relaxed through the movement of the disk with the bar as the said bar presses the disk into the cylinder against the spring to move the cylinder and seed-wheel or relaxes to permit the opposite shifting of said seed-wheel and cylinder, all substantially as described and shown.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES P. SESTER.

Witnesses:
L. J. LIEBENSTEIN,
CHAS. W. LA PORTS.

COPY BOUND C



CLOSE IN CENTER

(No Model.)

C. L. FOWLE.

SHOE FOR GRAIN DRILLS.

No. 411,141. Patented Sept. 17, 1889.

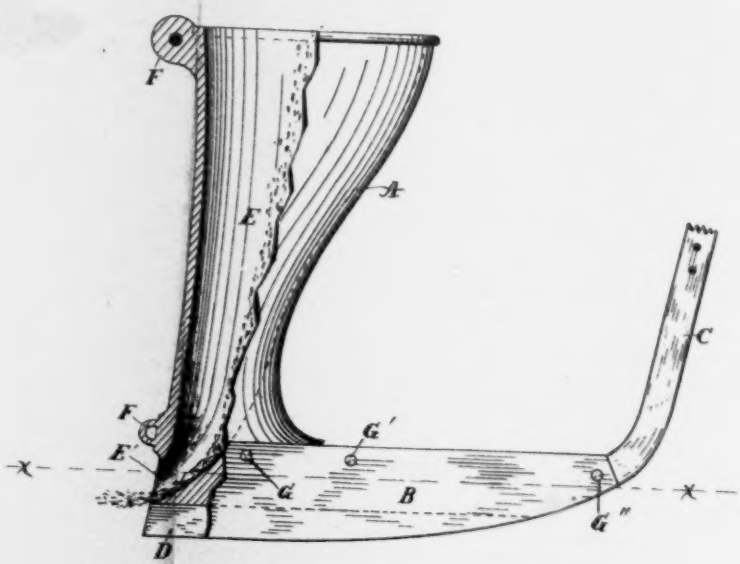


FIG. 1.

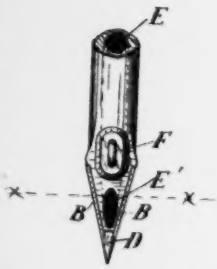


FIG. 2.

Witnesses
Thos. H. Stewart
Patrick H. Burke

Inventor
Charles L. Fowle
By L. C. Hall Attorney

POOR QU

UNITED STATES PATENT OFFICE.

CHARLES L. FOWLE, OF DOWAGIAC, MICHIGAN, ASSIGNOR TO THE DOWAGIAC MANUFACTURING COMPANY, OF SAME PLACE.

SHOE FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 411,141, dated September 17, 1889.

Application filed August 22, 1888. Serial No. 283,502. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. FOWLE, a citizen of the United States, residing at Dowagiac, county of Cass, State of Michigan, have invented a new and useful Shoe for Grain-Drills, of which the following is a specification.

The object of this invention is to construct a drill-shoe which will deliver the grain below the surface of the soil horizontally rearward into the furrow made by said shoe.

Other objects will appear set forth in the following description.

In the drawings forming a part of this specification, Figure 1 is a side elevation, parts being broken away; and Fig. 2 is an elevation looking from a point at the left of Fig. 1.

Referring to the lettered parts of the drawings, the hole E through the shoe A terminates through the rear below the surface-line *x x* of the ground at E′. Thus the grain is delivered horizontally into the furrow immediately in the rear of said shoe before the dirt can fall into the furrow. The mouth E′ of the hole may all be below the surface of the ground or just that part through which the grain flows.

The shoe has the ordinary lugs F, for attaching lifting-chains to in the ordinary manner.

The base of the shoe which makes the furrow is faced on each side with steel plates B, converging toward the lower side, thus being V-shaped in cross-section or when looking against the end, as in Fig. 2. A wedge-shaped bar D is welded in between the plates B, and the mouth E′ of the hole E comes to the top of the wedge. If it were not for the wedge-shaped bar D, the plates B would touch each other and be welded for some little distance up from the lower side, thus making this part of the shoe narrower, which would not be desirable for the reason that the furrow would be of insufficient width below the discharge E′ to allow the grain to fall freely to the bottom of the furrow. Then by employing the bar D the device is strong and light, and comparatively light-weight steel can be used for the plates. These plates B are attached to the shoe by rivets G G′ G″, or by other suitable means.

The upper part of the shoe is frequently called the "hopper," and the lower part, that forms the furrow, is called the "shoe;" but for convenience I have termed the whole device a "drill-shoe."

The draw-bar C is shown broken; but as it is well understood how drill-shoes are attached to the wheeled frame of a drill no particulars are here given.

Having thus described the invention, what I claim, and desire to secure by Letters Patent of the United States, is—

A drill-shoe having the side plates converging at the base and a wedge-shaped bar attached between the plates at said base, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

CHARLES L. FOWLE.

Witnesses:
BENJ. ROE,
WILLIAM TUTTLE.

COPY

No. 442,118.

WHEEL BEARING.

Patented Dec. 9, 1890.

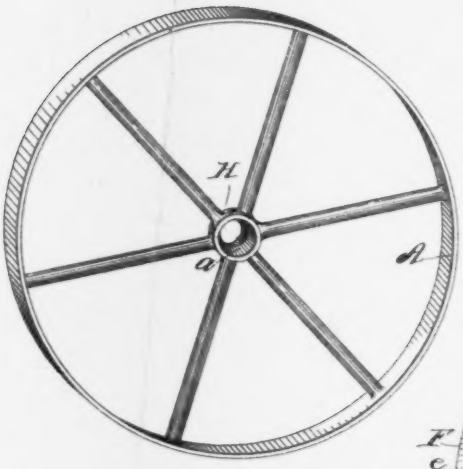


Fig. 2.

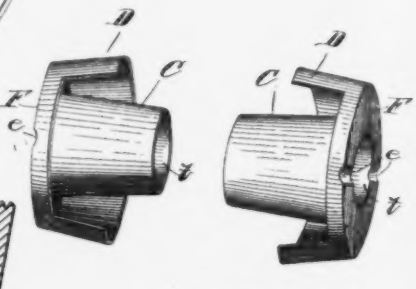


Fig. 3.

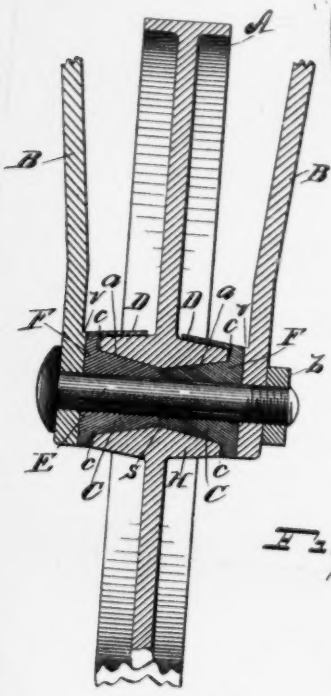


Fig. 1.



Fig. 4.

WITNESSES

B. A. Wheeler

C. A. Wheeler

INVENTOR

W. F. Hoyt

By

Raven B. Wheeler

Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILL. F. HOYT, OF DOWAGIAC, MICHIGAN.

WHEEL-BEARING.

SPECIFICATION forming part of Letters Patent No. 442,118, dated December 9, 1890.

Application filed October 16, 1890. Serial No. 368,346. (No model.)

To all whom it may concern:

Be it known that I, WILL. F. HOYT, a citizen of the United States, residing at Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Wheel-Bearings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in combined bearing and sand-band especially adapted for the wheels of agricultural implements; and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to avoid lathe-work on bearing parts to cheapen their construction and provide a chilled cone-bearing for said wheels, whereby the friction between the wearing parts is greatly reduced and the bearing rendered more serviceable, and to provide a sand-band that will exclude the sand and dirt from said wearing parts. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical cross-section through a wheel and bearing provided with my improved feature, the bolt uniting the parts being in elevation. Fig. 2 is a perspective view of a wheel, showing the beveled [illegible] interior of the hub. Fig. 3 is an enlarged perspective view of the conical bushings. Fig. 4 is an enlarged detail of the end of one of the arms or bars between which the wheel and axle-bearings are secured, as shown in Fig. 1.

Referring to the letters of reference, A indicates the wheel, which is provided with a chilled-iron hub H, the interior of which is beveled from the center of the hub outwardly to each end thereof, as shown at *a*, forming conical openings leading from the ends to the center of the hub.

C C indicate chilled cone-shaped bushings having a base F, provided with the flaring segmental flange D, formed integral therewith, said bushings also having an opening *t* passing therethrough, as shown in Fig. 3.

B B indicate the arms or bars that support the wheel A and bearing parts, said arms being provided with an opening *f* in their ends that receives the bolt E.

The conical bushings C are adapted to be inserted in the hub H of the wheel from each end thereof. The beveled faces *a* of the interior of said hub coinciding with the angle of the bushing form a perfect bearing therefor, and the flanges D, extending over the ends of the hub, exclude the sand that may fall from the rim of the wheel from said bearing.

The wheel A is mounted on the arms B by means of the bolt E, which passes through the opening *f* in the ends of said arms and through the bushings C, and receives the nut *b* on the end thereof, whereby the parts are held firmly together, as clearly shown in Fig. 1.

To prevent the cones C from turning on the bolt E when the wheel is revolved, the outer face of the base F thereof is provided with the recesses or concaves *e*, that are adapted to receive the lugs or bosses *r* on the inner face of the arms B when said parts are held in contact by the bolt E, as shown in Fig. 1, thereby locking said cones and allowing the hub H to revolve on the conical faces thereof. The arrangement of parts is such that when the conical bearings C are inserted in the hub H, with their smaller ends meeting at the center of the hub, as shown at *s*, the length of said cones is sufficient to cause the base F thereof to stand slightly away from the ends of the hub, so as to leave an open space *c* between said hub and base, thus permitting the hub to turn freely on said cones, and the beveled faces *a* of the interior of the hub coinciding with the angle of the cones C causes the wheel to revolve truly and to run to the center of its bearing. The cut-out portion of the flange D of the cones C is placed on the under side of the wheel-bearings, so that any dirt or sand that may have worked under the flange D on the upper side of the hub of the wheel will drop from the face of the hub as the wheel revolves.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

COPY

1. In combination with a wheel having a hole through its hub, which hole flares outwardly from the center toward the ends of the hub, the set of cone-shaped bearings adapted to fill the hole in the hub of the wheel and having the segmental flanges, said bearings having a hole through them, and a bolt passing therethrough, securing the bearings within the hub of the wheel, substantially as set forth.

2. The wheel having cone-shaped openings leading from the ends of the hub to the center thereof, combined with the two hollow conical bearings, each having the sand-band formed integral therewith, the bars having a hole in one end which registers with the hole through the conical bearings and having means for locking the bars to the ends of the conical bearings, and a bolt binding all of said parts, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILL. F. HOYT.

Witnesses:
C. A. PATTISON,
A. VANAXEM.

COPY

W. F. HOYT.

HOPPER AND SHOE FOR GRAIN DRILLS.

No. 448,861. Patented Mar. 24. 1891.

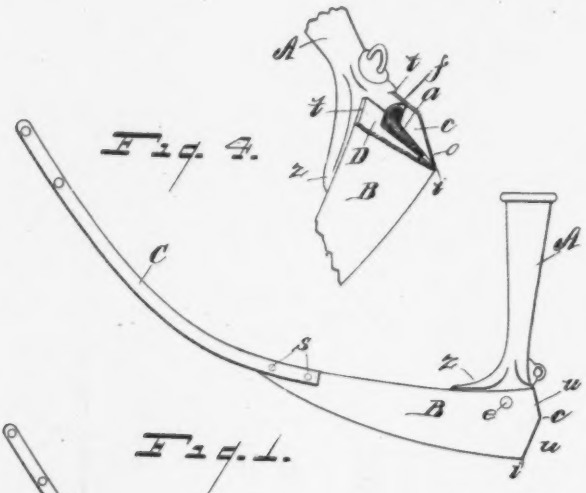


Fig. 4.

Fig. 1.

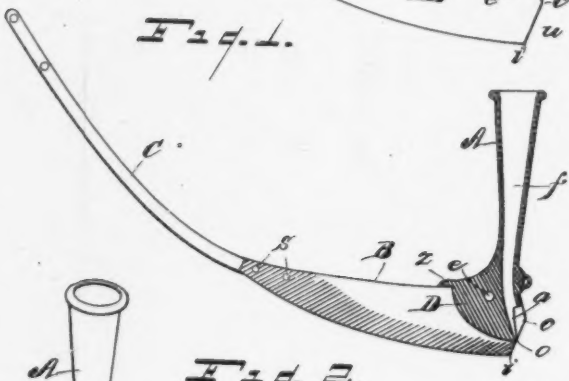


Fig. 2.

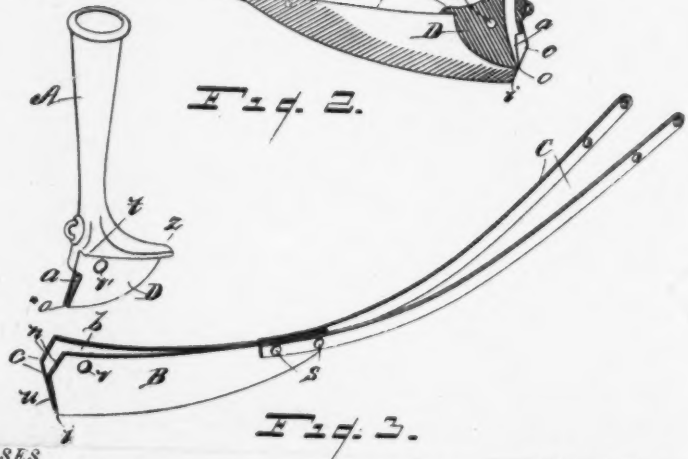


Fig. 3.

WITNESSES

B. F. Mueller

C. F. Mueller

INVENTOR

W. F. Hoyt

By

Rouse Brhuel

Attorney.

THE NORRIS PETERS CO., WASHINGTON, D. C.

WILL. F. HOYT, OF DOWAGIAC, MICHIGAN.

HOPPER AND SHOE FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 448,861, dated March 24, 1891.

Application filed October 16, 1890. Serial No. 368,347. (No model.)

To all whom it may concern:

Be it known that I, WILL. F. HOYT, a citizen of the United States, residing at Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in a Hopper and Shoe for Grain-Drills; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in a hopper and shoe for grain-drills; and it consists in a certain construction and arrangement of parts, hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide a hopper and shoe whereby the grain may be fed perfectly into the furrow formed by the shoe, that will protect the grain from being blown away by side winds before entering the furrow, and that will prevent the heel of the shoe from becoming choked with dirt and obstructing the flow of the grain. This object is attained by the construction shown in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved hopper and shoe and the draft-rods attached to the forward end of the shoe. Fig. 2 is a central vertical longitudinal section through Fig. 1. Fig. 3 is a perspective view of same, showing the hopper removed from the shoe. Fig. 4 is a perspective view of the rear portion of the hopper and shoe, a portion of the heel of the shoe being broken away, showing the seed-channel in the rear face of the shank of the hopper and the opening through the hopper communicating therewith.

Referring to the letters of reference, A indicates the hopper or seed-delivery tube, the lower end of which is provided with the horizontally-extending nose *z* and the vertical shank D, said shank being V-shaped in cross-section both vertically and horizontally to conform to the hollow of the shoe, said hopper also having the seed-opening *f*, passing therethrough, terminating with the channel *a* in the rear face of the shank D, as shown in Figs. 2 and 4.

B indicates the shoe, which is provided with an opening *b* in the rear edge and end to receive the shank D of the hopper, which is secured therein by the rivet *e* passing through the holes *c* in the sides of the shoe and the hole *c'* in the shank, as clearly shown in Figs. 2 and 3. The shoulders *t* on each side of the shank D and the extended nose *z*, resting upon the upper edge of the shoe, as shown in Fig. 4, afford a firm bearing for the hopper and assist in retaining said parts securely in place.

C indicates the draft-rods of the shoe, which are riveted to the forward end thereof, as shown at *s*, which is common.

It will be seen on looking at Figs. 1 and 3 that the heel of the shoe has two angles *n* and *u*, respectively, the upper angle *n* extending rearward from the base of the hopper and the lower angle *u* extending forward to the extreme point *i* of the heel. This construction of the heel forms the side wings *c*, that extend on each side of the seed-channel *a* in the shank D, as shown in Figs. 2 and 4, and protect the grain from side winds when passing from the opening *f* in the hopper to the furrow formed by the shoe, enabling the grain to be sown in perfect rows even in a strong wind, which would be impossible without said protecting-wings. It will also be seen that the channel *a* in the shank D inclines slightly rearward, which formation, in conjunction with the lower angle *u* of the heel of the shoe, throws the point *i* of the heel slightly in advance of the discharge-point *o* of the grain, whereby the heel of the shoe, when dropping, after passing over an obstruction, is prevented from choking with dirt and impeding the flow of the seed.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the hopper having the horizontal nose, the vertical central shank V-shaped in cross-section, the horizontally-projecting shoulders, and the vertical grain-opening terminating with the rearwardly-inclined channel-discharge in the rear of the shank, of the shoe, the opening in its rear upper face, and the shank of the hopper filling said opening, the shoe being riveted to

the shank and having the angle portions *a a* forming side wings to the grain-discharge, substantially as specified.

2. A hopper and shoe for grain-drills, comprising the hopper having the side overhanging flanges *f* and central shank V-shaped in cross-section with hole therein, the seed-opening passing through the hopper and terminating with the rearwardly-inclined channel formed in the shank, combined with the shoe riveted thereto, said shoe having the side wings, said wings having the angles *a a*, and the draft-rods attached to the front of the shoe, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILL. F. HOYT.

Witnesses:
C. A. PATTISON,
A. VANUXENE.

WITNESSES
B. F. Mueller
E. F. Mueller

INVENTOR
W. F. Hoyt
By
Rouse Brueler
Attorney.

(Model.) 3 Sheets—Sheet 1.

W. F. HOYT.

SEEDING DRILL.

No. 492,802. Patented Mar. 7, 1893.

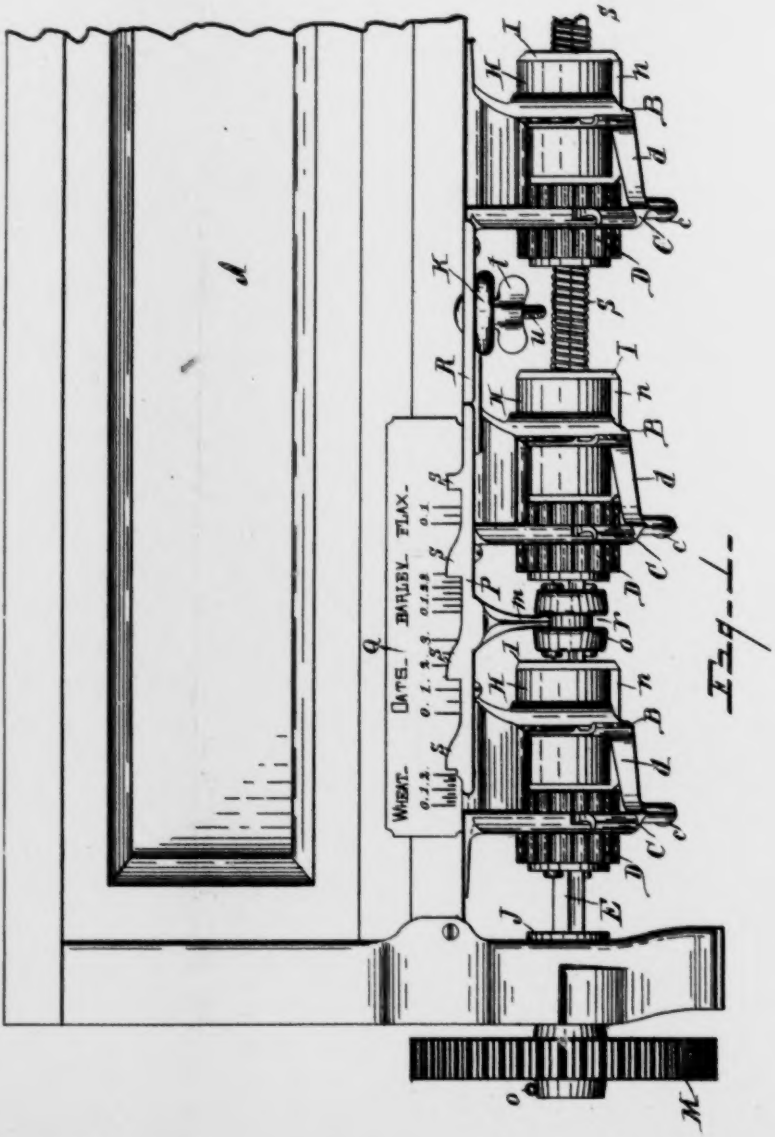


Fig. 1.

Witnesses
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E. D. Wheeler

Inventor
W. F. Hoyt
By
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THE HORKINS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

POOR



COPY

W. F. HOYT.

SEEDING DRILL.

No. 492,802. Patented Mar. 7, 1893.

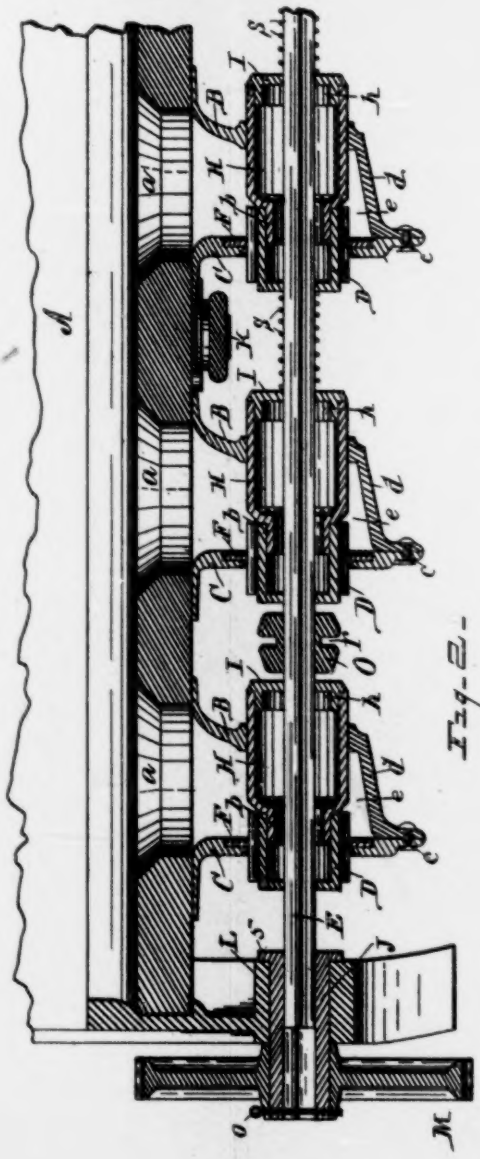


Fig-2.

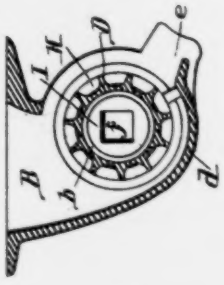


Fig-4.

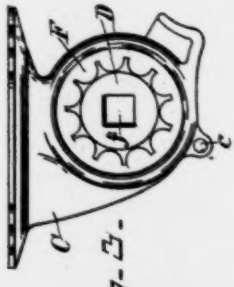


Fig-3.

WITNESSES.

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COPY

W. F. HOYT.
SEEDING DRILL.

No. 492,802.

3 Sheets—Sheet 3.

Patented Mar. 7, 1893.

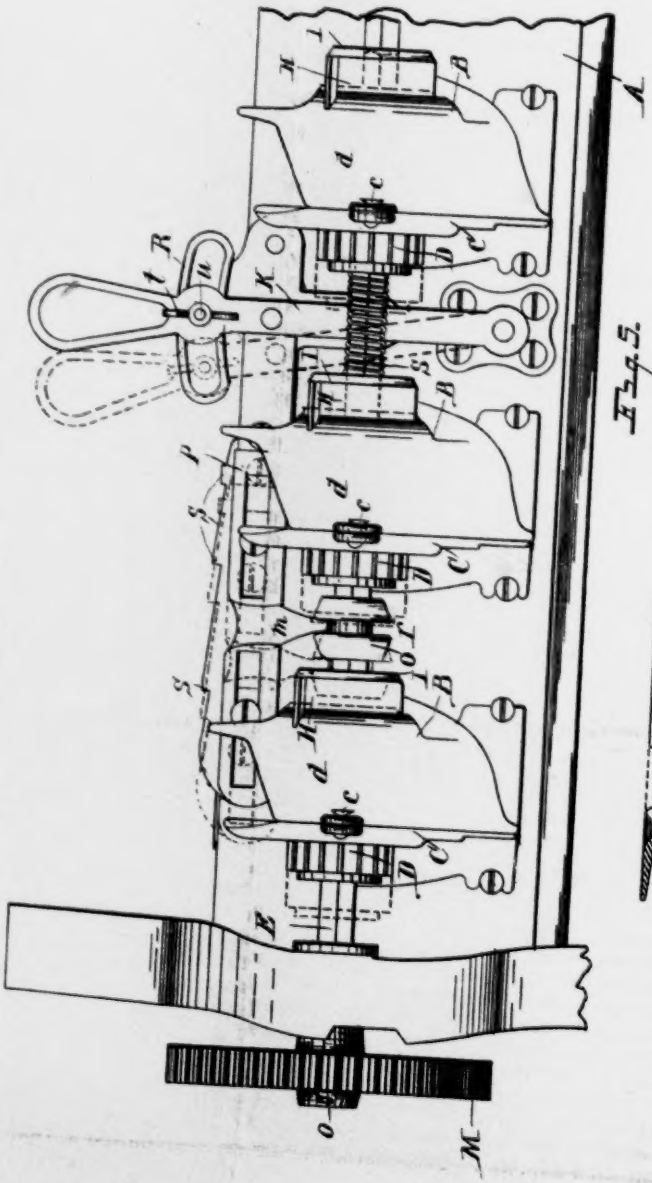


Fig. 5.

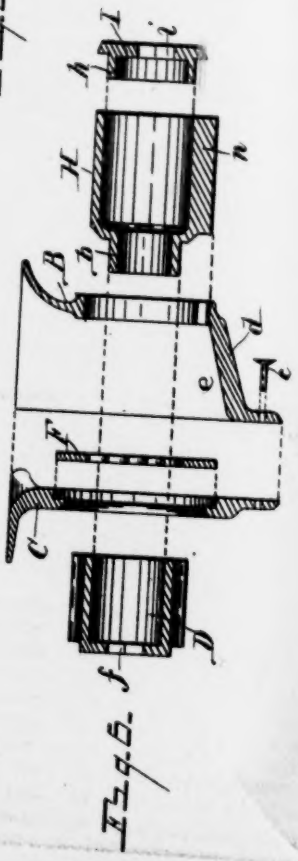


Fig. 6.

WITNESSES.
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E. A. Wheeler

INVENTOR.
W. F. Hoyt
By
Rouse B. Wheeler
Atty

POOR C

UNITED STATES PATENT OFFICE.

WILL. F. HOYT, OF DOWAGIAC, MICHIGAN.

SEEDING-DRILL.

SPECIFICATION forming part of Letters Patent No. 492,802, dated March 7, 1893.

Application filed June 24, 1891. Serial No. 397,328. (Model)

To all whom it may concern:

Be it known that I, WILL. F. HOYT, a citizen of the United States, residing at Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Seeding-Drills; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in force-feed mechanism for grain drills; and consists in a certain construction and arrangement of parts, as hereinafter fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide means for feeding the grain to the shoes of the drill in a continuous and uniform stream, and regulating the discharge of said grain according to the condition of the ground, and the nature of the grain being sown; and a further provision for cutting off the discharge of the grain entirely, when desired. The formation of the parts being such as to effect simplicity of construction, and economy in manufacture.

The above object is attained by the mechanism illustrated in the accompanying drawings, in which;

Figure 1 is a rear elevation of that portion of a grain drill embodying my improved features, parts being broken away. Fig. 2 is a vertical longitudinal section through Fig. 1. Fig. 3 is a side elevation of the seed-cup with the fluted seed-wheel therein. Fig. 4 is a central vertical section through Fig. 3. Fig. 5 is an inverted plan of Fig. 1. Fig. 6 is a central vertical section through the seed-cup, and the feeding mechanism located therein, taken at right-angles to Fig. 4, said parts being disconnected and drawn apart.

Referring to the letters and figures of reference, A designates the hopper that contains the grain, said hopper having in the bottom thereof a series of holes *a*, under which are attached the two-part seed-cups formed of the side plates B and C, which are firmly secured to the under face of the hopper A, and riveted together at their lower edges, as shown at *c*. The plate B having the laterally extending flange *d* forming the curved wall and bottom of the cup, and said plates converge to the mouth or seed discharge opening *e* therein. All of which is common.

Located in the seed-cup is the fluted seed-wheel D having longitudinal channels in its periphery to receive and convey the grain to the discharge opening of the cup. Said wheel is in the form of a hollow cylinder open at one end, the opposite end having a rectangular aperture *f*, clearly shown in Fig. 3, that receives the square shaft E upon which said wheel is mounted, and by means of which it is revolved within said cup, whereby the grain is continuously and uniformly discharged from the mouth *e* thereof.

The wheel D is adapted to slide longitudinally in and out of the side plate C of the seed-cup, passing through the disk F having a central opening therethrough that conforms to the fluted periphery of said wheel, said disk revolves on its own periphery in an annular channel or groove in the plate C, and prevents the escape of the grain from the cup through the channels in the periphery of the wheel D.

H designates a hollow cylinder or sleeve adapted to slide longitudinally through an annular opening in the side B of the seed-cup. Said cylinder being provided on its inner end with a reduced annular bearing *b*, that enters and closely fills the open end of the seed-wheel D, forming a journal on which said wheel revolves and supporting the inner end thereof. I designates a collar having a rectangular opening *i* therethrough, as shown in Figs. 4 and 6, that receives the square shaft E on which it is mounted and with which it is adapted to revolve. Projecting from the face of said collar at right-angles thereto is an annular flange *h*, that enters the outer end of the cylinder H and revolves therein, whereby said cylinder is supported free of the shaft E which passes therethrough. The cylinder H being held from revolution by means of the longitudinal rib *n* extending from its under face and which engages in a groove in the plate B, thereby locking said cylinder from turning, but permitting it to freely slide longitudinally. The diameter of the cylinder H is equal to that of

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the seed-wheel D through the peripheral ribs thereof, and when the parts are adjusted so that the wheel D is carried entirely out of the seed-cup through the side C, said cylinder will extend across the interior of said cup and close the openings through the sides C, B, thereof. The under rib *n* of said cylinder, when in that position, serving as a gate to close the seed discharge opening *e*, whereby the flow of grain is entirely cut off.

The shaft E is common to all of the series of seed-cups, and passing therethrough supports the feeding and feed regulating mechanism therein which is mounted on said shaft and adapted to travel longitudinally therewith. To provide for the longitudinal adjustment of said shaft, its ends are mounted in annular sleeves J having the annular flange 5. and a square central opening that receives said shaft, and in which it is adapted to slide. Said sleeve being journaled in the bearing L in the end portion of the hopper supporting frame, as shown in Fig. 2. Said sleeve extends through the bearing L and receives on its outer end the gear-wheel M by means of which said shaft is driven, and which is secured to the sleeve J by means of the pin *o*. By the employment of said annular sleeve having a square central opening that loosely receives the shaft E, said shaft is provided with suitable journals on which to revolve, and is permitted to slide longitudinally therein. This longitudinal adjustment of the shaft E, is accomplished by means of the lever K, which is pivoted to the plate P slidingly secured to the under face of the hopper, clearly shown in Fig. 5. Said plate having a depending arm *m* adapted to engage in a circumferential groove *r* in the collar O securely mounted on the shaft E, as shown in Figs. 1 and 5, whereby, by operating said lever, said shaft may be slid longitudinally to adjust the seed-wheels D through the side C of the seed-cups, as shown by dotted lines in Fig. 5, to increase or decrease the feeding surface of the wheel within said cup, thereby regulating the quantity of grain discharged therefrom, and as said wheel is adjusted the gate *n* on the sliding cylinder H opens and closes the discharge opening of the cup according to the extent of feeding surface of the wheel D working in said cup.

To readily determine at what point the feeding mechanism shall be set to feed the requisite quantity of seed according to the condition of the ground and the kind of grain being sown; a plate Q is secured to the hopper A, having a series of graduations thereon arranged for the various kinds of grain, with which a series of pointers *s* on the sliding-plate P registers, to indicate at what point to set the mechanism to feed a given quantity of grain to the acre, as shown in Fig. 1. The parts being locked in any position by tightening the thumb-nut *t* of the bolt *u*, which passes through the lever K and the slotted semi-circle-bar R, as shown in Figs. 1 and 5, thereby securely retaining the feeding mechanism at any desired degree of adjustment.

The mechanism for each of the seed-cups is fixedly secured to the shaft E and moves with said shaft when it is adjusted longitudinally, so that by sliding said shaft the parts are uniformly adjusted throughout the entire series of cups, each set of the feeding mechanism being retained in its respective position upon the shaft E by the interposed coiled springs S, which environ said shaft and bear against the end of the seed-wheel D of one cup, and the collar I of the cylinder H in the adjacent cup, as clearly shown in Figs. 1 and 2. By which means said parts are yieldingly retained in place, overcoming the friction incident to a rigid contact, and obviating the labor and expense of drilling said shaft and keying said parts in place, or employing collars and set-screws for that purpose.

By employing a square shaft E, and constructing and mounting the parts thereon, as shown and described; economy is effected in the manufacture thereof, as said parts may be cast and mounted on said shaft without requiring machine work to fit them to place.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a force feeding mechanism, the combination of the two-part seed-cup, the revoluble disk, the fluted seed-wheel having the rectangular opening, the hollow cylinder equal in diameter to the diameter of the fluted seed-wheel through its peripheral ribs and having the reduced annular bearing fitting within one end of the fluted wheel, the collar having the rectangular opening and the annular flange fitting into one end of the cylinder and supporting the same, the square, rotative and longitudinally movable shaft passing through the cylinder, and through the rectangular opening in the seed-wheel and collar, whereby the two latter are fixed upon said shaft and adapted to revolve therewith, substantially as specified.

2. In combination with the seed-cup, the revoluble disk, the fluted seed-wheel, having the rectangular opening, the hollow non-rotative cylinder equal in diameter to the diameter of the fluted wheel through its peripheral ribs, and having the reduced annular end fitting within the seed-wheel and the longitudinal rib on the enlarged periphery thereof, the collar having the rectangular opening and annular flange *h* that enters the bore of the cylinder and is journaled therein, the square, longitudinally movable and rotative shaft passing through said parts, and means for fixing said seed-wheel, cylinder and collar together on said shaft, so that said wheel and collar will revolve therewith and all of said parts travel in unison with the shaft as it is moved endwise, substantially as set forth.

3. In a seeding machine, the combination with a pair of seed-cups, the shaft passing through said cups and adapted to slide longi-

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the cylinder, and seed-wheel journaled thereon, mounted on said shaft within each of said cups, the coiled spring encircling said shaft, one end of said spring bearing against the seed-wheel of one cup and the opposite end against the cylinder of the adjacent cup, whereby the seeding mechanism in said cups is held in yielding contact, and maintained the proper distance apart upon said shaft.

4. In a grain drill, the combination of the hopper frame having the journal bearing L, the annular sleeve extending through said bearing and adapted to revolve therein, said sleeve having a rectangular opening therethrough and an annular flange on its inner end that bears against the inner vertical face of said bearing, the gear-wheel fixed on the outer end of said sleeve, the hub of which bears against the outer vertical face of said bearing, whereby said sleeve is held from longitudinal play, the square revoluble shaft entering the rectangular opening in said sleeve and adapted to have longitudinal movement therein.

In testimony whereof I affix my signature in presence of two witnesses.

WILL. F. HOYT.

Witnesses:
C. A. PATTERSON,
A. VANUXEM.

COPY

No. 627,381. Patented June 20, 1899.

W. BILLS.

REGISTER FOR GRAIN DRILLS.

(Application filed Nov. 6, 1897.)

(No Model.)

FIG. 1.

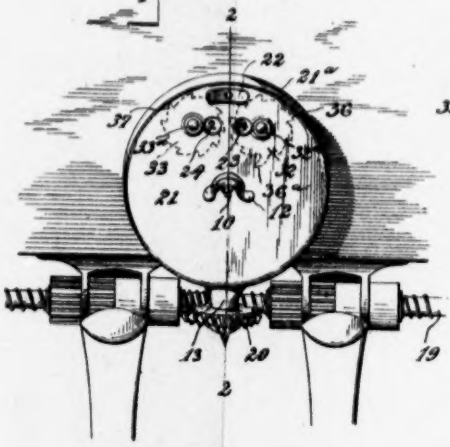


FIG. 2.

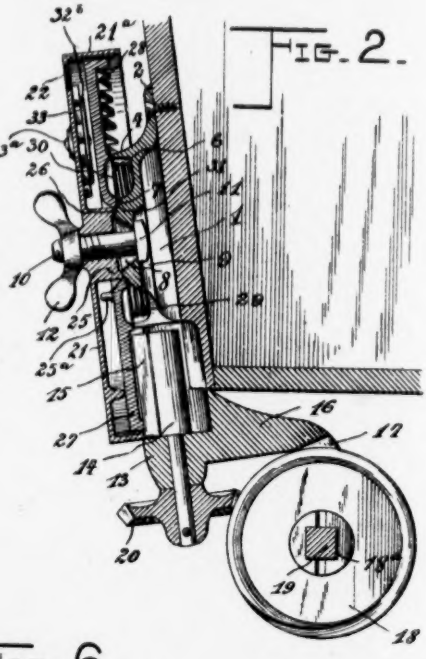


FIG. 4.

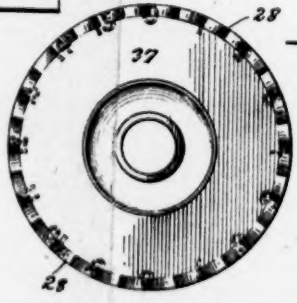
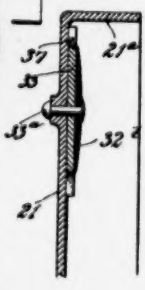


FIG. 6.



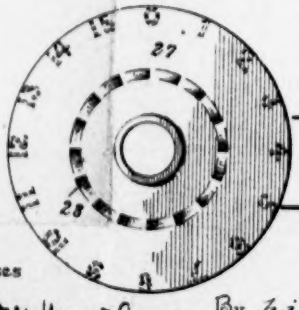


FIG. 5.

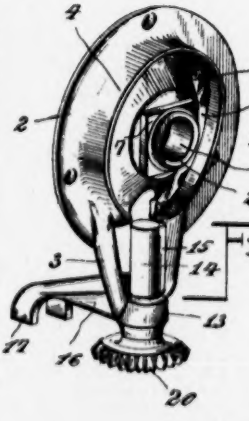


FIG. 3.

Witnesses

John F. Dieffenwierl

H. C. Beuchof

Inventor

Wilmont Bills.

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WILMONT BILLS, OF DOWAGIAC, MICHIGAN, ASSIGNOR TO THE DOWAGIAC MANUFACTURING COMPANY, OF SAME PLACE.

REGISTER FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 627,381, dated June 20, 1899.

Application filed November 6, 1897. Serial No. 657,666. (No model.)

To all whom it may concern:

Be it known that I, WILMONT BILLS, a citizen of the United States, residing at Dowagiac, in the county of Cass and State of Michigan, have invented a new and useful Register for Grain-Drills, of which the following is a specification.

My invention relates to improvements in registers for grain-drills; and the object that I have in view is to provide a simple and compact construction by which the acreage planted by the operation of the drill may be accurately registered to indicate to the owner the area under cultivation.

A further object of the invention is to provide an improved construction of the register which may be used to good advantage in connection with drills or seeders of different kinds, the register being so constructed that it may readily and quickly be attached to the drill or seeder.

A further object of the invention is to so construct and arrange the various parts that the register members or dials will not slip or move except when positively actuated by the register-actuating shaft, which is operatively connected through suitable gearing with the seed-dropping shaft of the drill or seeder.

With these ends in view the invention consists in the novel combination of elements and in the construction and arrangement of parts, which will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the preferred embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a rear elevation of part of a seed-planter or grain-drill with my improved register applied thereto. Fig. 2 is a vertical longitudinal sectional view through a part of the planter and the register on the plane indicated by the dotted line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the supporting-frame forming one of the elements of the improved register. Figs. 4 and 5 are detail views of units-dials of different constructions adapted for use in connection with the register-actuating shaft. Fig. 6 is a detail sectional view through one of the registering-dials, indicating the tension device for preventing said dial from slipping.

Like numerals of reference denote corresponding parts in each of the several figures of the drawings.

The frame 1 of my improved register is cast into a single piece of metal, substantially in the form indicated by Fig. 3 of the drawings. This frame consists of a substantially circular base 2 and a yoke 3, which extends radially from one side of the base. The base has an annular rib or flange 4 projecting from the rear side thereof, and within said rib or flange is a conical boss 5, which is concentric to said rib or flange and forms therewith an annular socket 6. At the outer end of the conical boss is a polygonal seat 7, which protrudes beyond the edge of the annular rib or flange 4, and through said conical boss and the polygonal or angular seat 7 is formed a transverse opening 8. In the front side of the supporting-frame 1 a depression or channel 9 is produced when the frame is cast, and into this channel or depression opens the aperture 8, which is adapted to receive a clamping-bolt 10, the head 11 of which is fitted or contained within the channel 9 to be held thereby against rotation when the thumb-nut 12 is manipulated for the purpose of connecting the various parts together. The yoke 3 terminates in a head 13, which forms the journal-bearing for the actuator-shaft 14. This actuator-shaft is arranged longitudinally within the yoke, and said shaft is provided with a fin or rib 15, which extends from the terminal head of the yoke to the inner extremity of the shaft to enable said shaft to be used in connection with units-dials having their ratchet-teeth placed at different radial distances on the rear faces thereof.

Projecting from the yoke 3 of the supporting-frame is a bracket or arm 16, which is integral with said yoke and is formed at its free lower extremity with a fork 17, and this forked end of the bracket or arm is arranged to straddle a worm-gear 18, which is fitted on the seed-dropping shaft 19 of the grain drill or planter. This worm-gear meshes with a beveled gear 20, fastened to the lower extremity of the ac-

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tuator-shaft 14, and said actuator-shaft is thus geared directly to the seed-dropping shaft to be rotated positively thereby.

The registering-wheels are housed or contained within a casing 21, which is cast in disk form with a raised flange 21^a. The casing is provided with a slot 22 and with apertures 23 24, and it is also provided with a central bearing or boss 25.

From the polygonal seat 7 protrudes a circular boss 26, which is coincident with the correspondingly-formed boss 25 of the casing, and these bosses are adapted to aline with each other and to abut together, so as to form a journal on which the units-dial 27 is mounted for free rotation. This units-dial is of a diameter proper to fit within the annular casing 21 of the register, and it has a central opening or orifice of such diameter as to enable it to fit snugly on the registering-bosses 25 26 of the casing and the frame 1 of said register. This units-dial is provided on one face thereof with a series of teeth 28, which are spaced at regular intervals and are substantially V-shaped in form, as shown by Figs. 4 and 5. These V-shaped teeth 28 of the units-dial lie in the path of the longitudinal rib or fin 15 of the register-actuating shaft 14, and said teeth are spaced apart at the proper intervals to provide sufficient clearance between the fin of the register-actuating shaft when the latter is rotated, whereby said shaft 14 is prevented from moving the units-dial beyond the proper predetermined distance. This units-dial is held under tension to prevent it from moving idly or under any conditions except by the positive impingement of the fin of the register-actuating shaft thereon, and the tension device for such dial is arranged in compact relation to the supporting-frame and the dial against which it presses. This tension device consists of a spiral or coil spring 29, which is seated in the annular socket 6, provided for its reception between the rib or flange 4 and the conical boss 5 of the supporting-frame, and said spring is held securely in place by said rib and the boss, while at the same time it is free to expand and contract in the direction of its length in order to have the necessary frictional contact with one face of the units-dial. To prevent the spring from rotating with the units-dial and from retarding the proper rotation thereof by reason of the frictional contact between the spring, the supporting-frame, and the dial, I interpose a metallic washer 30 between one end of the spring and a face of the units-dial, and said washer is prevented from turning with the dial by providing a polygonal opening 31 in the washer and fitting the washer to the polygonal seat 7 at the outer extremity of the conical boss 5, forming a part of the supporting-frame 1. This washer 30 fits snugly to the polygonal seat 7, to be held thereby against axial rotation while having the proper frictional contact with one face of the units-dial, and said washer is substantially flush with the face of said polygonal seat, so that the boss 26 only is exposed for the units-dial to ride thereon.

The units-dial is provided on its front face with a number of figures—say from "0" to "15," inclusive—which figures are so positioned on the dial as to be exposed through the slot 22 in the casing 21. The tens-wheel 32 is journaled on a pin or arbor 32^a in position for its numerals to be exposed through the opening 23, while the hundreds-wheel 33 is likewise journaled on a pin or arbor 33^a to have its figures exposed through the other opening 24 in said casing. Each wheel 32 33 is held from undue rotation by the binding action of an elastic disk or washer 32^b, and said disk or washer is applied or fitted against the rear side of its proper disk, which is fastened to the arbor or pin in a suitable way—as, for instance, by heading or swaging the inner end of said arbor against the disk, substantially as shown in Fig. 6—whereby the tension-disk is caused to bind or impinge against the registering-wheel to hold the latter in place by frictional contact and yet permit the registering-wheel to move a limited distance when positively actuated by the working elements of the machine.

The units-dial 27 is provided with a stud 25^a, arranged to engage with any one of a series of tangential teeth 36, formed on the peripheral edge of the tens wheel or dial 32, and one of the teeth 36^a of said units dial or disk 32 is longer than the other teeth 36 thereof, so that said long tooth 36^a is adapted to engage with any one of the series of tangential teeth 37, formed on the peripheral edge of the hundreds wheel or dial 33.

The bolt 10 passes through the conical boss, the polygonal stud, and the cylindrical boss 26 of the supporting-frame 1, and it also passes through the central opening in the units-dial and the boss 25 of the casing 21. The head 11 of said bolt 10 is housed and held from rotation in the channel 9 of the supporting-frame, and the protruding threaded end of this bolt receives a thumb or winged nut 12, which binds against the exposed front side of the casing 21, whereby a single bolt only is necessary to hold the operative parts of the register in proper relation to each other.

The worm-gear 18 is provided with an angular or polygonal opening or hub 18^a to adapt it to fit on the seed-dropping shaft 19 of the drill or planter in a manner to rotate with said shaft, and, if desired, the hub of said worm-gear may be provided with notches to receive a fastening pin or key for the purpose of holding the worm-gear against sidewise displacement on said shaft 19. It is not strictly necessary to employ a means for holding this worm-gear against sidewise displacement, because the forked arm 17 of the supporting-frame 1 loosely embraces this worm-gear and serves to hold the same in proper position with relation to the beveled gear 20 on the register-actuating shaft.

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My improved register is readily applied to any ordinary grain-drill. It is only necessary to fit the worm-gear 18 on the shaft 19 of said drill and to fasten the supporting-frame 1 to the seed hopper or box, such attachment of the supporting-frame being readily effected by means of screws or their equivalents, which may be passed through openings in the base 2. The worm-gear 18 is positioned on the shaft to engage with the beveled gear 20, and the worm-gear itself is engaged by the forked arm 17 to be free to rotate therein.

When the machine is in motion, the worm-gear 18 is rotated to drive the shaft 14. At each revolution of this shaft 14 its fin 15 strikes one of the teeth 28 on the units-dial to feed the latter with a step-by-step motion, and when the units-dial makes one complete revolution its stud 35 strikes one of the teeth 36 on the tens-dial 32. The latter dial at every complete revolution rotates the hundreds-dial through the medium of its long tooth 36^a striking one of the teeth 37 on said hundreds-dial, and thus all the dials of the register are actuated successively and progressively to indicate the total acreage planted by the machine.

My improved register is adapted for use in connection with grain-drills of different classes by providing interchangeable units-dials having teeth which vary in number. In Fig. 4 I have illustrated a units-dial with a large number of teeth adjacent to its edge or periphery; but in Fig. 5 the units-dial has a smaller number of teeth arranged in annular series quite close to the central opening, by which the dial is supported on the alined bosses 25 26 of the register. The casing 21 of the register is readily removed by simply detaching the thumb-nut and withdrawing the casing from the bolt, after which one dial can be easily slipped off the bolt, another dial placed in position, and the casing and thumb-nut replaced to connect and hold the parts in their proper positions for operation.

I am aware that changes in the form and proportion of parts and in the details of construction may be made by a skilled mechanic without departing from the spirit or sacrificing the advantages of the invention, and I therefore desire to reserve the right to make such modifications and alterations as fairly fall within the scope of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a grain-register, a supporting-frame provided with a forked arm, and a driving-gear which is embraced loosely by said forked arm to be held thereby from displacement in relation to the operative parts of the register, combined with a casing having registering devices, and an actuator-shaft driven by said gear and operatively connected with said registering devices, substantially as described.

2. In a grain-register, a supporting-frame provided with a yoke and with an extended forked arm, and a worm-gear which is embraced loosely by said forked arm, in combination with a removable casing supported centrally on said frame, a register-dial mounted axially on the supporting-frame for rotation within the casing, and an actuator-shaft journaled in the yoke and geared at one end to said worm-gear, said actuator-shaft being arranged at one side of the register-dial and engaging intermittently therewith as it is driven by the worm-gear, substantially as described.

3. In a grain-register, a supporting-frame having a circular protruding boss, a casing also formed with a circular boss which is coincident with the boss of the frame and forms therewith a journal, and means for clamping the frame and casing together, in combination with a register-dial fitted loosely on the journal formed by the coincident bosses of the frame and casing, means for actuating said dial, and a spring brake device housed between the frame and casing to act against the register-dial, substantially as described.

4. In a grain-register, a supporting-frame having a disk, an annular flange on one face of the disk, a conical boss within said flange and forming therewith an annular spring-cavity, and a cylindrical boss projecting beyond the conical boss and the annular flange, combined with a casing having a tubular boss which is coincident with the cylindrical boss of the frame and forms therewith a journal, a bolt which passes through the coincident bosses of the frame and casing, a spring housed within the cavity formed by the conical boss and flange of the frame, a register-dial fitted on the journal-bosses, and means for actuating the dial, substantially as described.

5. In a grain-drill register, a supporting-frame provided with a spring-receiving socket and with a polygonal seat, in combination with a casing, a registering-dial, a tension-spring seated within the socket, and a washer or disk connected to and held from rotation by the polygonal seat of the supporting-frame and situated between the registering-dial and said tension-spring, and an actuator mechanism for said registering-dial, substantially as and for the purposes described.

6. In a grain-drill register, a supporting-frame provided with an extended yoke and with a projecting forked arm, combined with an actuator-shaft journaled in said yoke and provided with a fin and with a gear, a worm-gear which meshes with said gear of the actuator-shaft and is confined in place in operative relation thereto by said forked arm, and a registering-dial actuated by the fin of said actuator-shaft, substantially as and for the purposes described.

7. A grain-drill register comprising a supporting-frame having an extended yoke, a forked arm and a protruding boss, a casing having a protruding boss which alines with the boss of the supporting-frame and forms therewith a journal, a through-bolt for de-

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tachably holding the casing on said supporting-frame, a registering-dial mounted on the journal provided by the bosses of the frame and the casing, a tension-spring seated in the supporting-frame, a non-rotatable friction plate or disk interposed between said tension-spring and the registering-dial, an actuator-shaft journaled in the yoke of the supporting-frame and having a fin which engages with said actuator-dial, a worm-gear loosely confined by the fork and geared to the actuator-shaft, and other registering-dials journaled in the casing in operative relation to each other and to the registering-dials, substantially as and for the purposes described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILMONT BILLS.

Witnesses:
E. PHILLIPSON,
CLYDE W. KETCHAM.



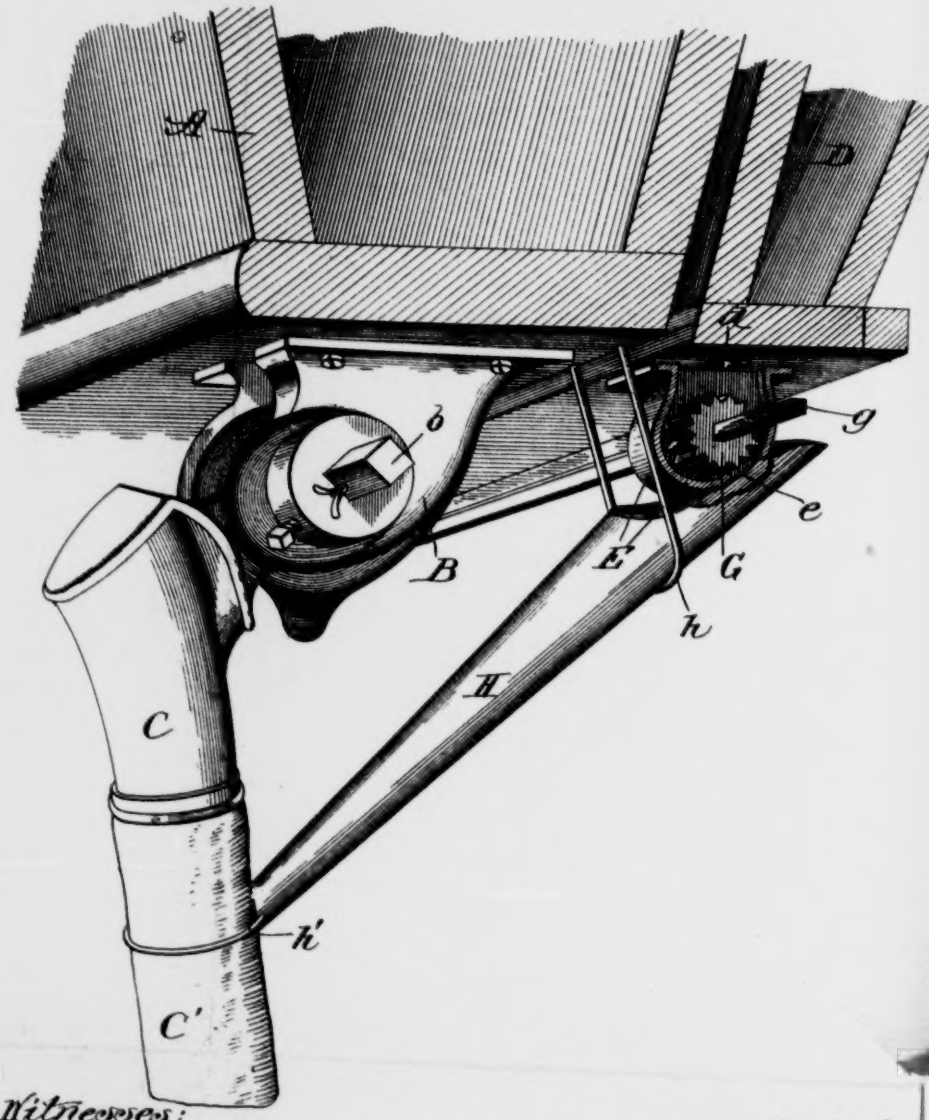
No. 634,460. Patented Oct. 10, 1899.

W. F. HOYT.

COMBINED GRAIN AND GRASS SEEDER.

(Application filed June 10, 1899.)

(No Model.)



Witnesses:
Chas. E. Langford.
Lute S. Sutton

Inventor:
Will F. Hoyt,
By Bruning & Bruning & Thurston.
Attys.

UNITED STATES PATENT OFFICE.

WILL F. HOYT, OF DOWAGIAC, MICHIGAN.

COMBINED GRAIN AND GRASS SEEDER.

SPECIFICATION forming part of Letters Patent No. 634,460, dated October 10, 1899.

Application filed June 10, 1899. Serial No. 720,045. (No model.)

To all whom it may concern:

Be it known that I, WILL F. HOYT, a citizen of the United States, residing at Dowagiac, Michigan, have invented certain new and useful Improvements in a Combined Grain and Grass Seeder, of which the following is a specification.

My invention relates to that class of mechanisms which are adapted to be used in connection with a wheeled vehicle for the purpose of sowing grain or grass seed, either singly or in combination with each other, and will be more fully hereinafter described.

The principal object of the invention is to provide a simple, economical, and efficient combined grain and grass seeder; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawing the figure is a perspective view of my improvements, showing how they appear when attached to the body of a wheeled vehicle and in condition for use.

In illustrating and describing my invention I only illustrate and describe what I consider to be new, taken in connection with so much as is old as may be necessary to properly disclose the invention and enable those skilled in the art to practice the same, leaving out of consideration other and well-known mechanisms which if illustrated and described herein would only tend to confusion, prolixity, and ambiguity.

In constructing my improvements and assembling them in position for use I provide a grain-box A, which is provided with a grain-feed, the casing B of which is shown in the drawing having a revoluble shaft *b* therein and which shaft is provided with a grain-feeding attachment in the shape a star-wheel, (not shown,) which rotates adjacent to the casing and permits the grain to feed regularly and in uniform quantities into the grain-tube C, which guides it into the rubber conductor C′ and from there through the shoes, (not shown,) being an ordinary type of seeder and which is well known in the art.

In order to provide means by which grass-seed may be sown with the grain, or sown in rows separately, or sown broadcast, as may be desired, I provide a grass-seed box D, secured to the body of the vehicle in any desired manner, which is adapted to hold the requisite quantity of grass-seed. Arranged adjacent to the discharge-opening *d* of the grass-seed box is the grass-seed feed comprising a boot or casing E, arranged immediately under the discharge-opening and which is provided with a discharge-opening *e* on the lower surface thereof. To discharge grass-seed at regular intervals of time and in uniform quantities, a feed-wheel G is provided and mounted upon the revoluble shaft *g*, having its bearings in the boot portion and adapted to be rotated by some movable part of the vehicle. This feed-wheel, as shown in the drawing, has its serrated or toothed periphery at the lower part of the boot or casing, so that when the casing is filled with grass-seed or receiving the same and during the rotations of the feed-wheel uniform quantities of grass-seed are fed into the discharge-tube H at regular intervals of time and through which the seed is guided to the rubber conductor C′. This feeding of the grass-seed, as above noted, can take place simultaneously with the grain or independently thereof, or the discharge-tube H can be removed and the grass-seed sown broadcast at the same time the grain is being sown or at different times. The discharge-tube for the grass-seed is held at its upper or receiving end by a yoke or stirrup *h*, secured to the grain-box or other support on the frame of the machine. The tube is held loosely in this yoke or stirrup, so that its upper or receiving end can be slipped therefrom and the tube removed or detached for sowing broadcast. The lower end of this discharge-tube is provided with a ring *h′* to encircle the conductor C′ and support the tube when connected with the conductor, which ring can be slipped off the conductor and the discharge-tube wholly removed from the machine whenever desired.

The feed-wheel for the grass-seed has a serrated or fluted periphery forming a series of recesses or cups. The exterior of the feed-wheel corresponds in diameter to the interior of the casing or boot, and the apex or edge of each rib or flute acts as a cut-off for the preceding recess or cup with the rotation of the wheel, so that each cup or recess fills as it passes through the casing or boot and has its sup-

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ply cut off as the apex or edge of its following rib or flute comes to a point where it meets the face of the casing or boot, leaving the recess or cup filled with a measured quantity of seed. Each recess or cup as it reaches the edge of the discharge-opening *e* deposits its seed to pass through the discharge-opening, and with the discharge or feed spout H in position as shown in the drawing and the grain-sowing attachment in operation the deposited grass-seed passes down the discharge or feed spout to commingle with the grain in the leg or conductor, sowing grain and grass-seed simultaneously and conjointly.

The grain-sowing attachment can be cut out or the hopper thereof be left unfilled and the grass-seed-sowing attachment left independently operative, and in this condition grass-seed alone will be sown, the seed entering the discharge or feed spout and passing to the leg or conductor and thence to the ground. The grain-sowing attachment can be made inoperative and the grass-seed-sowing attachment be left operative, and the upper end of the spout or discharge-tube therefor can be detached from its suspending stirrup or loop and swung to one side or wholly removed from beneath the casing or boot, and in this condition the seed from each cup or recess successively will pass through the discharge-opening and be sown broadcast.

I claim—

1. The combination in a seeding mechanism having a grain-sowing attachment and a grass-seed-sowing attachment of a detachable discharge-tube for the grass-seed-sowing attachment, whereby said attachment can be made to sow conjointly, separately, or broadcast, substantially as described.

2. The combination in a seeding mechanism of a grain-sowing attachment, a grass-seed-sowing attachment, a discharge and conductor for the grain-sowing attachment, a discharge-tube for the grass-seed-sowing attachment detachably connected with the conductor of the grain-sowing attachment and with the grass-seed-sowing attachment, substantially as described.

3. The combination in a seeding mechanism of a grain-sowing attachment, a grass-seed-sowing attachment, a discharge and conductor for the grain-sowing attachment, a discharge-tube for the grass-seed-sowing attachment, a yoke or stirrup supporting such discharge-tube adjacent to the discharge of the attachment, and a ring encircling the conductor and supporting the delivery end of the discharge-tube, substantially as described.

WILL F. HOYT.

Witnesses:
O. SCHMALZREID,
E. MCMASTER.

POOR



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(No Model.)

GRAIN DRILL.

(Application filed Oct. 12, 1899.)

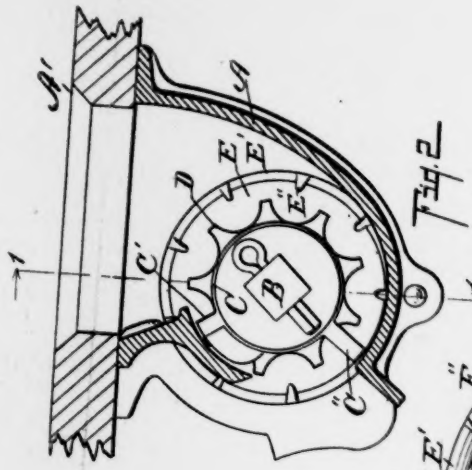


Fig. 2

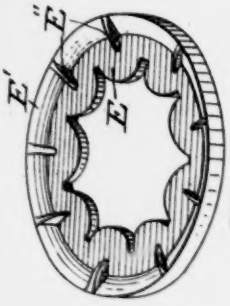


Fig. 3

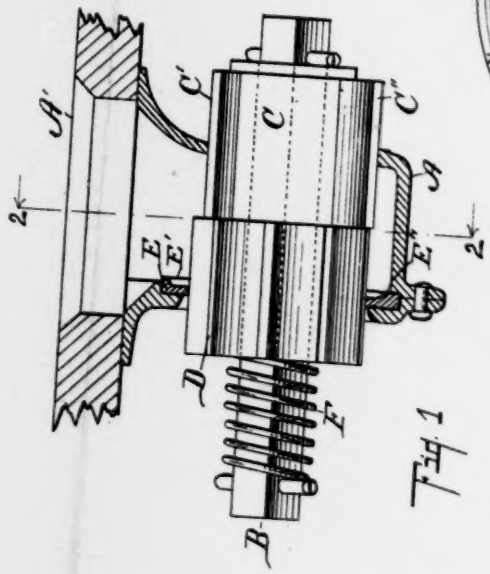


Fig. 1

Witnesses:

Otis A. Earl

Charles D. Fuller

Inventor,

Charles L. Fowle

By Fred L. Chappell

Att'y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES L. FOWLE, OF DOWAGIAC, MICHIGAN, ASSIGNOR TO THE DOWAGIAC MANUFACTURING COMPANY, OF SAME PLACE.

GRAIN-DRILL.

SPECIFICATION forming part of Letters Patent No. 654,057, dated July 17, 1900.

Application filed October 12, 1899. Serial No. 733,444. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. FOWLE, a citizen of the United States, residing at the city of Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Grain-Drills, of which the following is a specification.

This invention relates to improvements in force-feed seeding apparatus for grain-drills.

The object of this invention is to provide an improved construction of force-feed for grain-drills which shall secure a more even and satisfactory flow of the seed from the hopper to the drill below.

I accomplish the object of my invention by the structure described in the following specification. The invention is clearly defined and pointed out in the claims.

The structure to which my invention pertains is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail view of a seed-cup and feed mechanism, partially in section, on a line corresponding to line 1 1 of Fig. 2. Fig. 2 is a transverse detail sectional view taken on a line corresponding to line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the rosette-washer with my invention applied.

In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A' represents the bottom board of the hopper. A represents the seed-cup, secured to the under side thereof, the same being made, preferably, in two parts suitably riveted or otherwise secured together. Extending transversely through this seed-cup is the shaft B, bearing the fluted feed-cylinder D, and a cylinder or sleeve C, bearing suitable gates C' C'' for shutting off the outlet from the seed-cup and regulating the discharge-passage. The shaft B is preferably square, fitting into a square hole in the fluted feed-cylinder D, so as to revolve the same. A suitable bushing is put into the sleeve C, so that the shaft revolves freely in the same. The sleeve C and the fluted feed-roll are held in contact with each other by means of the spring F. The shaft extends the entire length of the hopper of the drill, and being controlled by suitable connections regulates the position of the sleeve C, with its gates C' C'', and so controls the amount of seed sown. The fluted feed-cylinder D fits within a revoluble rosette-washer E, so that it slides freely back and forth through the same. This is supported in the side of the seed-cup. The washer has an inwardly-projecting rim E', and opposite each flute or groove in the seed-roll is a projecting lug E''. From this it will be seen that when the shaft B is rotated in the proper direction it rotates the feed-roll D and also the rosette-washer E, and the projecting lugs E' slightly agitate the grain within the cup, so that it will flow more freely and at the same time engage against the kernels and carry them out at the discharge or opening more freely and evenly than they otherwise would, and, in fact, secures the most even distribution and feeding of grain from the feed-hopper that it has been possible to attain up to the present time.

I have described the shaft B as square. It could be of any other irregular form in cross-section, so long as it effectually engages the feed-roll. In fact, other means might be provided of actuating the feed-roll, so long as it is possible to adjust it back and forth into the seed-cup.

Other styles of gate might be employed for restricting the outlet-passage from the seed-cup. I have shown the same in the preferred form.

From these statements it will be readily understood that the structure is capable of considerable variation without departing from my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a force-feed, the combination of a seed-cup; a fluted force-feed seed wheel or roller; a rosette-washer supported in one side of the cup, fitting said seed wheel or roller, the said washer having its outer edge inwardly turned and provided with lugs opposite the flutes of the seed-wheel, all coacting for the purpose specified.

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2. In a force-feed the combination of a seed-cup; a force-feed seed wheel or roller; a washer supported in one side of the cup fitting said seed wheel or roller, the said washer having its outer edge inwardly turned, and provided with lugs to agitate and carry the seed forward, for the purpose specified.

3. In a force-feed, the combination of a feed wheel or roller; a washer fitted to the same, having an inwardly-turned rim, with lugs thereon to assist in agitating and discharging, as specified.

4. In a force-feed, the combination of a feed wheel or roller; a washer fitted to the same, with laterally-extending lugs at the periphery only and tapering toward the center to assist in agitating and discharging, as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

CHARLES L. FOWLE. [L. S.]

Witnesses:
W. F. HARPER,
M. POLLOCK.



OR COPY

No. 705,030.

Patented July 22, 1902.

W. F. BROWN.

SHOE FOR GRAIN DRILLS.

(Application filed May 10, 1901.)

(No Model.)

Fig. 1

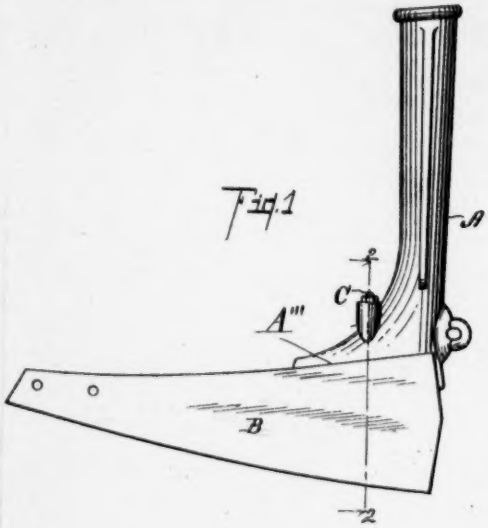




Fig. 2

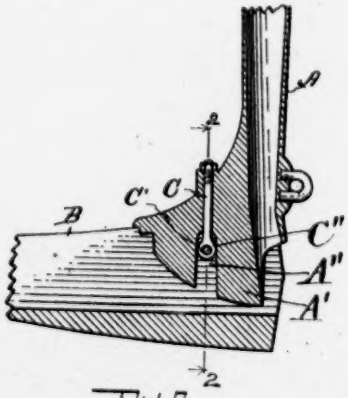


Fig. 3

Witnesses:

S. Alice Earl.

Otis A. Earl

Inventor,

William F. Brown

By Fred L. Clapsell

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. BROWN, OF DOWAGIAC, MICHIGAN, ASSIGNOR TO THE DOWAGIAC MANUFACTURING COMPANY, OF DOWAGIAC, MICHIGAN.

SHOE FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 705,030, dated July 22, 1902.

Application filed May 10, 1901. Serial No. 59,588. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BROWN, a citizen of the United States, residing at the city of Dowagiac, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Shoes for Grain-Drills, of which the following is a specification.

This invention relates to improvements in shoes for grain-drills.

The object of the invention is to provide a shoe for a grain-drill which is easily detachable, the same being so constructed that it is very simple, with scarcely any additional parts, and at the same time the shoe is retained as securely in position as by the usual rivets.

Minor objects will appear in the detailed description to follow.

I accomplish these objects by the devices and means described in this specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a grain-drill shoe with its boot attached. Fig. 2 is a vertical detail sectional view taken on line 2 2 of Fig. 1. Fig. 3 is a vertical detail sectional view taken on line 3 3 of Fig. 2.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is the boot, and B is the shoe. The boot is constructed in the usual form from two plates of metal, the lower edges of which are welded together and an upper rear portion of which is left open like a V. The lower end of the boot A extends forwardly into a kind of bracket, and this extends downwardly in a piece somewhat wedge-shaped at A'. A vertical slot A'' is in this wedge-shaped part, and a bolt C, having an eye C'' at its lower end, which is pivoted on a rivet or pivot C', through the sides of the shoe B. A shoulder A''' is on both sides above the wedge-shaped portions A', against which the side plates of the shoe B rest. The slot A'' engages the eye C'' of the bolt C quite closely to prevent a forward-and-backward movement of the shoe. A screw-threaded nut is on the upper end of the bolt C and fits against a suitable seat to draw the shoe up against the boot, so that when this bolt C is tightened the shoe is drawn into position and the wedge-shaped portion A' crowded into the V-shaped opening in the top of the shoe, and the shoe is retained securely in position and at the same time is easily removed by loosening a single bolt.

The shoes of grain-drills wear out, and it is consequently very desirable to renew the same or to remove them for the purpose of sharpening.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the boot A with a wedge-shaped portion A' at the lower end thereof having suitable shoulders A''' above and a vertical slot A'' therein; and a shoe B with a V-shaped opening between its side plates; and a bolt C with an eye C'' embracing a pivot C' through the shoe, the said eye C'' fitting the said slot closely said bolt extending upwardly through the part A' of the boot A.

2. The combination of a boot having a wedge-shaped portion at the bottom with a slot therein; a shoe with side plates forming a V-shaped opening above to embrace the wedge-shaped part of said boot; a bolt secured to a suitable pivot between the sides of the shoe and extending upwardly through the wedge-shaped part of the boot, for the purpose specified.

3. The combination of a boot with a suitable wedge-shaped portion at the bottom containing the vertical slot; and a shoe, the side plates of which form a V-shaped opening above to embrace the wedge-shaped portion of said boot, and a bolt connected with the shoe and extending upwardly for attaching the same to the boot, as specified.

4. The combination of a boot with a suit-

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able wedge-shaped portion at the bottom; and a shoe, the side plates of which form a V-shaped opening above to embrace the wedge-shaped portion of said boot; and a bolt connected with the shoe and extending upwardly for attaching the same to the boot, as specified.

In witness whereof I have hereunto set m hand and seal in the presence of two witnesse

WILLIAM F. BROWN. [L. S.]

Witnesses:
C. L. FOWLE,
F. W. JONES.

POOR COPY

(Clerk's Certificate to Printed Record.)

United States Circuit Court of Appeals, Eighth Circuit.

I, John D. Jordan, Clerk of the United States Circuit Court of Appeals for the Eighth Circuit, do hereby certify that the foregoing printed record consisting of two volumes, paged consecutively from 1 to 1347, in the two cases of Dowagiac Manufacturing Company, Appellant, v. Minnesota Moline Plow Company and Thomas H. Martin, No. 3041, and Dowagiac Manufacturing Company, Appellant, v. Ernest F. Smith and Luppo Zimmer, No. 3042, was printed under my supervision and is identical with the printed record upon which said causes were heard and decided in the Circuit Court of Appeals.

In Testimony Whereof, I hereunto subscribe my name and affix the seal of the United States Circuit Court of Appeals for the Eighth Circuit, at office in the City of St. Louis, Missouri, this twenty-fourth day of December, A. D. 1910.

[Seal United States Circuit Court of Appeals, Eighth Circuit.]

JOHN D. JORDAN,
Clerk of the United States Circuit Court of Appeals for the Eighth Circuit.

1259

United States Circuit Court of Appeals

EIGHTH CIRCUIT.

No. 3041.

DOWAGIAC MANUFACTURING COMPANY,
APPELLANT,
vs.
MINNESOTA MOLINE PLOW COMPANY AND THOMAS H. MARTIN, APPELLEES.

No. 3042.

DOWAGIAC MANUFACTURING COMPANY,
APPELLANT,
vs.
ERNEST F. SMITH AND LUPPO ZIMMER, APPELLEES.

Supplemental Transcript of Proceedings in United States Circuit Court of Appeals.

1 Pleas and proceedings in the United States Circuit Court of Appeals for the Eighth Circuit, at the September Term, 1910, of said Court, before the Honorable William C. Hook and the Honorable Elmer B. Adams, Circuit Judges, and the Honorable Smith McPherson, District Judge.

Attest:
(Seal)

JOHN D. JORDAN,
Clerk of the United States Circuit Court of Appeals for the Eighth Circuit.

Be it Remembered, that heretofore, a transcript of record, pursuant to appeals allowed by the Circuit Court of the United States for the District of Minnesota, was filed in the office of the Clerk of the United States Circuit Court of Appeals for the Eighth Circuit, wherein the Dowagiac Manufacturing Company was Appellant, and the Minnesota Moline Plow Company and Thomas H. Martin were Appellees, which said cause was docketed in said Circuit Court of Appeals on March 29, 1909, as No. 3041, and wherein the Dowagiac Manufacturing Company was Appellant, and Ernest F. Smith and Luppo Zimmer were Appellees, which latter cause was docketed in said Circuit Court of Appeals on March 29, 1909, as No. 3042.

That thereafter the following proceedings were had in said causes, in said Circuit Court of Appeals, viz:

2 (Appearance of Counsel for Appellant in Cause No. 3041.)

On the twenty-ninth day of March, A. D. 1909, the appearance of counsel for appellant was filed in cause No. 3041, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

Dowagiac Manufacturing Company, Appellant,
No. 3041. vs.
Minnesota Moline Plow Company, et al.

The Clerk will enter my appearance as Counsel for the Appellant.

FRED L. CHAPPELL.

Endorsed: U. S. Circuit Court of Appeals, Eighth Circuit. No. 3041. Dowagiac Manufacturing Company, Appellant, vs. Minnesota Moline Plow Company, et al. Appearance. Filed Mar. 29, 1909. John D. Jordan, Clerk. Fred L. Chappell, Counsel for Appellant.

(Appearance of Counsel for Appellees in Cause No. 3041.)

And on the first day of October, A. D. 1909, the appearance of counsel for appellees was filed in cause No. 3041, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

Dowagiac Manufacturing Company, Appellant,
No. 3041. vs.
Minnesota Moline Plow Company, et al.

The Clerk will enter my appearance as Counsel for the Appellees.

THOMAS A. BANNING.

3 Endorsed: U. S. Circuit Court of Appeals, Eighth Circuit. No. 3041. Dowagiac Manufacturing Company, Appellant, vs. Minnesota Moline Plow Company, et al. Appearance. Filed Oct. 1, 1909. John D. Jordan, Clerk. Thomas A. Banning, Counsel for Appellees.

(Stipulation to amend Record as to Complainant's Exhibit, "Statement showing Shoe Drills purchased from McSherry Mfg. Co., etc.")

And on the seventh day of December, A. D. 1909, a stipulation to amend the record as to Complainant's Exhibit, Statement showing Shoe Drills purchased from McSherry Mfg. Co., etc." was filed in said causes Nos. 3041 and 3042, in the words and figures following, to-wit:

United States Circuit Court of Appeals, For the Eighth Circuit.

Dowagiac Manufacturing Company, Complainant-Appellant,
vs.
Minnesota Moline Plow Company, Defendant-Appellee.

Stipulation.

It is hereby stipulated and agreed by and between counsel for the respective parties that the Complainant's Exhibit "Statement Showing Shoe Drills Purchased from the McSherry Manufacturing Company, Middletown, Ohio, and sold by Minnesota Moline Plow Company, with purchase and selling prices of same, is a true copy of such Exhibit filed in the Court below, and that the printed copy hereto attached may be considered as having been duly certified to this court by the Clerk of the court below, and that the same may constitute a part of the printed record herein; and that an order of this court may be entered to that effect.

FRED L. CHAPPELL,
Counsel for Complainant-Appellant.
THOMAS A. BANNING,
Nov. 6, 1909. Counsel for Defendant-Appellee.

1953

United States Circuit Court of Appeals

For the Eighth Circuit

DOWAGIAC MANUFACTURING CO.,
Appellant,
vs.
MINNESOTA MOLINE PLOW CO.
and THOMAS H. MARTIN,
Appellees.

No. 3041

DOWAGIAC MANUFACTURING CO.,
Appellant,
vs.
ERNEST F. SMITH and
LIPPO ZIMMER,
Appellees.

No. 3042

In the U. S. Circuit Court
District of Minnesota

Dowagiac Mfg. Co.
vs.
Minnesota Moline Plow Co. et al.

Complainant's Drawn, statement, description of Drills purchased from Kelbers, Mfg. Co., Leetonia, Ohio, and sold by Minn. Moline Plow Co. with purchase and selling prices.

Above Mentioned
Corn Drills

1356

STATEMENT SHOWING THE SHOE DRILLS PURCHASED FROM THE McSHERRY MFG. CO., OF MIDDLETOWN, OHIO, AND SOLD BY THE MINNESOTA MOLINE PLOW COMPANY WITH THE PURCHASE AND SELLING PRICES OF THE SAME.

Note: In the statement following no deductions have been made for store rent, salaries of officers and employes, freight on machines, expenses and salaries of traveling salesmen, patented and unpatented improvements and inventions contained in the McSherry drills in addition to the Hoyt patented invention, interest on the money invested in the business, nor other items of expense required in carrying on the business of selling drills. In short, the difference given below between the purchase price and the selling price represents only the gross difference between them without any of the deductions to which the Minnesota Moline Plow Company may be entitled.

1897		Purchase Price.	Selling Price.
Feb. 2	Balfour & Doig, Glenboro, Man. 1-22 Shoe Drill	59.50	75.00
Feb. 2	D. Gibson, Souris, Man. 1-20 Shoe	55.50	70.00
Feb. 2	C. H. Greenbush, Hamiota, Man. 1-16 Shoe	47.50	56.00
Feb. 11	D. McRae, Arden, Man. 1-20 Shoe	55.50	70.00
Feb. 16	H. Stege, Nicollet, Minn. 1-16 Shoe	47.50	56.00
Feb. 16	C. H. Greenshaw, Shoal Lake, Man. 1-16 Shoe	47.50	63.00
Feb. 16	C. H. Greenshaw, Shoal Lake, Man. 2-14 Shoe	87.00	112.00
Feb. 16	Morkell & Whitworth, Morris, Man. 5-16 Shoe	237.50	315.00
Feb. 16	Morkell & Whitworth, Morris, Man. 1-16 Shoe	47.50	56.00
Feb. 16	Morkell & Whitworth, Morris, Man. 1-16 Shoe	47.50	56.00
Feb. 16	Winram Bros., Manitoba 1-16 Shoe	47.00	57.00
Feb. 16.	A. Doig, Birtle, Man. 1-14 Shoe	43.50	53.00
Feb. 16.	Adamson & Parker, Morden, Man. 1-14 Shoe	43.50	51.00
Feb. 16	Crawford & Co., Pipestone, Man. 1-20 Shoe	55.50	71.00
Feb. 16	G. Dinwoody, Nupewa, Man. 1-16 Shoe	47.50	61.00
Feb. 16	J. Winram, Pilot Mound, Man. 1-16 Shoe	47.50	57.00
Feb. 17	Townsend Marshell, Sauk Center, Minn. 2-14 Shoe	87.00	103.00

1897			Purchase Price.	Selling Price.
		2-16 Shoe	95.00	112.00
		1-18 Shoe	51.50	62.00
		1-20 Shoe	55.50	69.00
Feb.	19	W. D. Marvin, Pine Island, Minn.		
		1-18 Shoe	51.50	62.00
Feb.	20	Winram Bros., Manitoba.		
		6-16 Shoe	285.00	342.00
		4-18 Shoe	206.00	248.00
Feb.	20	A. Doig, Birtle, Man.		
		8-14 Shoe	348.00	424.00
		2-16 Shoe	96.00	120.00
Feb.	23	C. H. Greenshaw, Hamiota, Man.		
		1-14 Shoe	43.50	53.00
		1-16 Shoe	48.50	56.00
		4-18 Shoe	206.00	248.00
		6-20 Shoe	333.00	420.00
Feb.	23	H. T. Anderson, Winnipeg, Man.		
		1-20 Shoe Drill	55.50	71.00
Feb.	25	Markell & Whitworth, Morris, Man.		
		1-14 Shoe	43.50	51.50
		6-16 Shoe	285.00	336.00
		1-20 Shoe	55.50	69.00
Feb.	25	Siglinger & Wicker, Webster, S. D.		
		1-18 Shoe	51.50	62.00
		1-20 Shoe	55.50	70.00
		1-22 Shoe	59.50	75.00
Feb.	25	W. Goldsmith Alexandria, Man.		
		1-16 Shoe	47.50	58.00
Feb.	26	Merry & Williams, Carmine, Man.		
		1-14 Shoe	43.50	53.00
		5-16 Shoe	237.50	280.00
Feb.	26	F. Goldammer, Lakota, N. D.		
		1-22 Shoe	59.50	76.00
Mar.	1	Adamson & Parker, Morden, Man.		
		5-14 Shoe	217.50	265.00
		16-16 Shoe	760.00	896.00
		3-18 Shoe	154.00	186.00
		1-20 Shoe	55.50	70.00
Mar.	3	Peerless Machine Co., Valley City, N. D.		
		2-16 Shoe	103.00	124.00
		3-22 Shoe	178.50	225.00
Mar.	4	John A Sanby, Elbow Lake, Minn.		
		1-16 Shoe	47.50	59.00
Mar.	4	John A. Sanby, Elbow Lake, N. D.		
		1-16 Shoe	47.50	59.00
Mar.	6	Sam F. Reco, Blue Earth, Minn.		
		1-16 Shoe	47.50	62.00
		1-18 Shoe	51.00	67.00
Mar.	8	Clara City Merc. Co., Clara City, Minn.		
		1-14 Shoe	43.50	54.00
		2-16 Shoe	95.00	124.00
		2-18 Shoe	103.00	134.00
		2-20 Shoe	111.00	150.00
Mar.	8	Wimbledon Mach. Co., Wimbledon, N. D.		
		1-18 Shoe	51.50	65.00
		1-22 Shoe	59.50	76.00
Mar.	8	W. Goldsmith, Alexandria, Man.		
		1-16 Shoe	47.50	58.00
Mar.	9	H. D. Desnayers, Clark, S. D.		
		1-16 Shoe	47.50	60.00
Mar.	9	Markell & Whitworth, Dom City, Man.		
		4-16 Shoe	194.00	224.00
		3-20 Shoe	166.50	207.00
		3-22 Shoe	178.00	228.00

1897		Purchase Price.	Selling Price.
Mar. 11	Hill Bros., Odessa, Minn.		
	1-20 Shoe	55.50	69.00
Mar. 12	Jas. Thompson, Cavaller, N. D.		
	1-18 Shoe	51.50	65.00
Mar. 15.	Jno. G. Johnson, Hadley, Man.		
	2-16 Shoe	95.00	114.00
Mar. 16	Ing Moen, Hunter, N. D.		
	6-22 Shoe	357.00	468.00
Mar. 17	J. P. Reiton, Gilby, N. D.		
	2-22 Shoe	119.00	152.00
Mar. 18	G. O. Hougen, Northwood, N. D.		
	3-16 Shoe	142.50	180.00
	3-22 Shoe	173.50	234.00
Mar. 19	Wirtz Bros., Chirch's Ferry, N. D.		
	2-22 Shoe	119.00	152.00
Mar. 19	Jno. G. Johnson, Hadley Minn.		
	6-20 Shoe	333.00	430.00
Mar. 19	Geo. A. Dinwoody, Nupawa, Man.		
	3-16 Shoe	142.50	183.00
Mar. 20	G. O. Hougen, Northwood, N. D.		
	4-16 Shoe	190.00	240.00
	2-20 Shoe	111.00	140.00
Mar. 22	Ma.kell & Whitworth, Morris, Man.		
	1-18 Shoe Drill	51.50	62.00
Mar. 25	C. A. Lazarins, Murdock, Minn.		
	1-22 Shoe	59.50	78.00
Mar. 25	Jas. Winram, Pilot Mound, Man.		
	3-16 Shoe	145.50	171.00
	3-20 Shoe	166.50	210.00
Mar. 26	D. Gibson, Souris, Man.		
	4-16 Shoe	194.00	220.00
	6-20 Shoe	333.00	420.00
	2-22 Shoe	119.00	150.00
Mar. 26	Crawford & Co., Pipestone, Man.		
	1-14 Shoe	43.50	52.50
	1-16 Shoe	48.50	57.00
	1-18 Shoe	51.50	63.00
	1-20 Shoe	55.50	71.00
	1-22 Shoe	59.50	78.00
Mar. 26	K. O. Lee, Aberdeen, S. D.		
	2-16 Shoe	90.00	112.00
	2-18 Shoe	103.00	124.00
	1-20 Shoe	55.50	69.00
	1-22 Shoe	59.50	75.00
Mar. 26	W. Casement, Inkster, N. D.		
	1-22 Shoe	59.50	76.00
Mar. 26	Qualey Bros. & Hanson, Kindred, N. D.		
	1-16 Shoe	47.50	58.00
	6-18 Shoe	309.00	384.00
	1-20 Shoe	55.50	72.00
	1-22 Shoe	59.50	80.00
Mar. 26	John A. Tuff, Fertile, Minn.		
	2-14 Shoe	87.00	104.00
	3-16 Shoe	95.00	174.00
	1-20 Shoe	55.50	71.00
Mar. 29	Morgridge & Merrick, Grand Harbor, N. D.		
	6-22 Shoe	357.00	480.00
Mar. 31.	C. E. Clure, New Rockford, N. D.		
	5-22 Shoe	297.50	390.00
	2-16 Shoe	95.00	118.00
Mar. 31	Siglinger & Wicker, Webster, S. D.		
	1-14 Shoe	43.50	51.50
Apr. 3	Adamson & Parker, Morden, Man.		
	1-14 Shoe	43.50	51.00

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1897			Purchase Price.	Selling Price.
		2-16 Shoe	97.00	112.00
		2-18 Shoe	103.00	124.00
Apr.	5	Clara City Merc. Co., Clara, City, Minn.		
		1-20 Shoe	55.50	75.00
Apr.	9	M. E. Hawk, Buffalo, N. D.		
		1-20 Shoe	55.50	69.00
		4-22 Shoe	238.00	304.00
Apr.	9	Winram Bros., Maritan, Man.		
		1-18 Shoe	51.50	62.00
Apr.	10	Wimbledon Machine Co., Wimbledon, N. D.		
		1-22 Shoe	59.50	76.00
Apr.	10	Qualey Bros. & Hanson, Kindred, N. D.		
		1-18 Shoe	51.50	64.00
Apr.	12	Adamson & Parker, Morden, N. D.		
		1-22 Shoe	59.50	75.00
Apr.	12	Siglinger & Wicker, Webster, S. D.		
		1-20 Shoe	55-50	70.00
		1-18 Shoe	51.50	62.00
Apr.	13	Markell & Whitworth, Dominion City, Man.		
		1-16 Shoe	47.50	56.00
Apr.	14	Wimbledon Machine Co., Wimbledon, N. D.		
		1-22 Shoe	59.50	76.00
Apr.	15	Ing Moen, Hunter, N. D.		
		5-22 Shoe	297.50	390.00
Apr.	15	Jno. Earngay, Plumas, Man.		
		1-14 Shoe	43.50	53.00
Apr.	17	K. O. Lee, Aberdeen, S. D.		
		2-16 Shoe	95.00	112.00
		1-20 Shoe	55.50	69.00
Apr.	19	Markell & Whitmore, Dom. City, Man.		
		1-20 Shoe	55.50	69.00
Apr.	19	Jno. Carlson, Miami, Man.		
		1-16 Shoe	48.50	58.00
Apr.	20	Qualey Bros. & Hanson, Kindred, N. D.		
		1-18 Shoe	51.50	64.00
Apr.	21	Oliver Bros., Hudson, Wis.		
		1-14 Shoe	43.50	51.50
Apr.	23	Wimbledon Machine Co., Wimbledon, N. D.		
		1-22 Shoe	59.50	76.00
Apr.	27	H. F. Anderson, Winnipeg, Man.		
		1-18 Shoe	51.50	63.00
Apr.	28	Jno. Carson, Miami, Man.		
		1-14 Shoe	43.50	52.00
May	1	Jno. Eadie, Portage La Prairie, Man.		
		1-18 Shoe	51.50	60.99
May	4	H. F. Anderson, Winnipeg, Man.		
		4-14 Shoe	174.00	212.00
		1-20 Shoe	55.50	71.00
May	17	H. F. Anderson, Winnipeg, Man.		
		2-14 Shoe	87.00	106.00
May	25	1-18 Shoe	51.50	63.00
June	1	1-14 Shoe	43.50	53.00
July	10	1-14 Shoe	43.50	53.00
Aug.	26	Jas. Eadie, Portage LaPrarie, Man.		
		2-20 Shoe	111.00	140.00
Nov.	6	Hobensack & Sloam, Lewistown, Mont.		
		1-14 Shoe	42.50	50.00
Dec.	17	A. Doig, Birtle, Man.		
		1-16 Shoe	46.50	58.00
Dec.	29	Townsend & Marshall, Sauk Center, Minn.		
		4-16 Shoe	186.00	208.00
		2-20 Shoe	109.00	132.00

1898.		Purchase Price.	Selling Price.
Jan. 14	McEwan & Dougherty, Park River, N. D.		
	1-22 Shoe	58.50	75.00
Jan. 14	H. Bennett, Larimore, N. D.		
	1-20 Shoe	54.50	69.00
Jan. 18	Ross & Allen, Brandt, S. D.		
	1-18 Shoe	50.50	62.00
Jan. 29	Wimbledon Machine Co., Wimbledon, N. D.		
	1-18 Shoe	50.50	62.00
	1-22 Shoe	58.50	72.00
	1-22 Shoe	58.50	72.00
Feb. 2	Besenius & Eich, St. Cloud, Minn.		
	1-12 Shoe	38.50	46.00
Feb. 3	Markell & Whitworth, Morris, Man.		
	10-16 Shoe	475.00	520.00
	1-22 Shoe	38.50	71.00
	1-14 Shoe	42.50	49.00
Feb. 4	Kohlhase & Maas, Webster, S. D.		
	1-18 Shoe	50.50	62.00
Feb. 5	M. H. Campbell & Son, Redfield, S. D.		
	2-18 Shoe	101.00	118.00
Feb. 5	D. Gibson, Souris, Man.		
	10-16 Shoe	475.00	500.00
	3-20 Shoe	163.50	201.00
	2-22 Shoe	117.00	144.00
Feb. 9	A. A. Colgrove, Faulkton, S. D.		
	2-16 Shoe	93.00	108.00
	1-18 Shoe	50.50	61.00
Feb. 9	Geo. Campbell, Walhalla. N. D.		
	1-18 Shoe Drill	50.50	62.00
Feb. 10	W. G. Wells & Co., Mansfield, S. D.		
	1-22 Shoe	58.50	72.00
	1-16 Shoe	46.50	56.00
Feb. 10	A. Tenneson & Co., Albee, S. D,		
	2-18 Shoe	101.00	130.00
	2-20 Shoe	109.00	140.00
	2-22 Shoe	117.00	156.00
Feb. 10	Morgridge & Merrill, Grand Harbor. N. D.		
	1-22 Shoe	58.50	74.00
Feb. 12	I. B. Prather. Kerkhoven, Minn.		
	1-20 Shoe	54.50	66.00
Feb. 12	M. R. O'Neill, Graceville, Minn.		
	1-22 Shoe	58.50	71.00
Feb. 12	R. D. Hill, Odessa, Minn.		
	1-16 Shoe	46-50	55.00
	1-20 Shoe	54-50	66.00
Feb. 12	T. W. Child, Mellette, S. D.		
	4-20 Shoe	226.00	300.00
	5-22 Shoe	302.50	400.00
Feb. 12	A. Doig, Birtle, Man.		
	5-14 Shoe	212.50	260.00
	5-16 Shoe	232.50	290.00
Feb. 12	W. J, Doig, Russell, Man.		
	1-14 Shoe	42.50	52.00
	2-16 Shoe	95.00	116.00
	1-22 Shoe	58.50	73.00
Feb. 17	K. O. Lee, Aberdeen, S. D.		
	2-22 Shoe	117.00	150.00
Feb. 22	J. J. Guerton, Willow City, N. D.		
	2-16 Shoe	93.00	108.00
	2-18 Shoe	101.00	124.00
	2-20 Shoe	109.00	138.00
	4-22 Shoe	234.00	292.00
Feb. 22	Swendseid & Knold, Petersburg, N. D.		
	2-18 Shoe	101.00	126.00

1898.			Purchase Price.	Selling Price.
		3-20 Shoe	163.50	210.00
		5-22 Shoe	292.50	380.00
Feb.	22	Langdon Imp. Co., Langdon, N. D.		
		4-16 Shoe	188.00	224.00
		5-18 Shoe	252.50	305.00
		2-20 Shoe	109.00	132.00
		5-22 Shoe	292.50	355.00
Feb.	22	A. R. Henderson, Stonewall, Man.		
		1-16 Shoe	47.50	51.00
Feb.	25	Zimmerman Bros., Elizabeth, Minn.		
		1-16 Shoe	46.50	65.00
Feb.	25	H. L. Beiseker, Fessenden. N. D.		
		2-18 Shoe	101.00	126.00
		2-20 Shoe	109.00	136.00
		1-22 Shoe	56.50	74.00
Feb.	26	H. O. Hokanson & Co., Herman, Minn.		
		1-16 Shoe	47.50	56.00
		1-20 Shoe	54.50	66.00
Feb.	26	E. Ertresvaag, Bottineau, N. D.		
		1-18 Shoe	50.50	62.00
		1-22 Shoe	58.50	73.00
Feb.	28	Ing Moen, Hunter, N. D.		
		3-22 Shoe	175.50	225.00
Feb.	28	J. C. Scott, Fosston, Minn.		
		1-14 Shoe	42.50	52.00
		1-16 Shoe	46.50	56.00
Feb.	28	Yack & Henning, Renville, Minn.		
		2-16 Shoe Drill	93.00	112.00
		2-20 Shoe	109.00	132.00
Mar.	2	H. Bennett, Larimore, N. D.		
		1-16 Shoe	46.50	55.00
		1-18 Shoe	50.50	61.00
		3-20 Shoe	163.50	207.00
		5-22 Shoe	292.50	375.00
Mar.	3	Wirtz Bros., Churches Ferry, N. D.		
		2-16 Shoe	93.00	116.00
		6-22 Shoe	351.00	450.00
Mar.	3	Tiedt & Platt, Argyle, Minn.		
		1-18 Shoe	50.50	65.00
		3-20 Shoe	163.50	210.00
		6-22 Shoe	351.00	450.00
Mar,	7	Jas. Eadie, Portage LaPrairie, Man.		
		2-22 Shoe	117.00	146.00
Mar.	7	Jas. Winram, Pilot Mound, Man.		
		1-14 Shoe	42.50	51.00
		1-16 Shoe	46.50	56.00
		1-20 Shoe	54.50	66.00
Mar.	7	A. R. Henderton, Stonewall, Man.		
		2-16 Shoe	93.00	102.00
Mar.	7	W. C. Bond, Gladstone, Man.		
		1-14 Shoe	42.50	52.00
		3-16 Shoe	139.50	171.00
Mar.	7	Johnson Leach & Ellingson, Havanna, N. D.		
		1-20 Shoe	54.00	68.00
		2-22 Shoe	117.00	144.00
Mar.	7	Lindberg & Lundgren, Warren, Minn.		
		2-14 Shoe	85.00	104.00
		1-16 Shoe	46.50	57.00
		4-18 Shoe	202.00	252.00
		3-20 Shoe	163.50	210.00
Mar.	8	A. R. Henderson, Stonewall, Man.		
		1-16 Shoe	47.50	51.00
		1-14 Shoe	42.50	48.00
Mar.	8	H. A. Hokanson & Co., Herman, Minn.		
		1-16 Shoe	47.50	56.00

1898.			Purchase Price.	Selling Price.
Mar.	8	Lundberg & Lundgren, Warren, Minn.		
		1-12 Shoe	38.50	47.00
Mar.	9	H. M. Griffin, Marietta, Minn.		
		2-18 Shoe	101.00	122.00
Mar.	8	Jos. Thompson, Cavalier, N. D.		
		1-18 Shoe	50.50	65.00
		3-22 Shoe	175.50	231.00
Mar.	8	Westenson & Johnson, Hallock, Minn.		
		1-16 Shoe	46.50	56.00
		2-20 Shoe	109.00	140.00
		4-22 Shoe	117.00	300.00
Mar.	9	Phillip Blank, New Salem, N. D.		
		9-12 Shoe	346.50	432.00
		1-16 Shoe	46.50	57.00
Mar.	9	Markell & Whiteworth, Dom. City, Man.		
		1-16 Shoe	47.50	52.00
Mar.	10	Kohlhase & Maas, Webeter, S. D.		
		2-16 Shoe	93.00	108.00
		6-20 Shoe	327.00	402.00
		5-18 Shoe	252.50	310.00
Mar.	10	And. Johnson, Hawley, Minn.		
		4-16 Shoe	186.00	224.00
Mar.	10	Geo. Campbell, Walhalla, N. D.		
		4-16 Shoe	186.00	228.00
Mar.	10	Townsend & Marshall, Sauk Center, Minn.		
		1-20 Shoe	54.50	66.00
Mar.	12	R. D. Hill, Odessa, Minn.		
		1-22 Shoe	58-50	71.00
Mar.	12	W. Casement, Inkster, N. D.		
		2-22 Shoe Drill	117.00	152.00
Mar.	12	Clara City Lbr. Co., Clara City, Minn.		
		1-16 Shoe	46.50	62.00
		1-18, Shoe	50.50	67.00
		1-20 Shoe	54.50	75.00
Mar.	14	Rose & Allen, Brandt, S. D.		
		1-14 Shoe	42.50	52.00
		4-16 Shoe	186.00	224.00
		3-18 Shoe	151.50	186.00
		5-20 Shoe	272.50	350.00
Mar.	14	E. O. Berg, Madison, Minn.		
		1-16 Shoe	46.50	56.00
Mar.	14	Ganssle & McIntosh St. Thomas, N. D.		
		3-22 Shoe	175.50	216.00
Mar.	15	A. J. Ekander, Willmar, Minn.		
		1-16 Shoe	46.50	57.00
Mar.	15	Gannsle & McIntosh, St. Thomas, N. D.		
		2-22 Shoe	117.00	144.00
Mar.	15	K. O. Lee, Aberdeen, S. D.		
		8-22 Shoe	468.00	600.00
		2-16 Shoe	93.00	112.00
Apr.	26	H. F. Anderson, Winnipeg, Man.		
		1-16 Shoe	46.50	56.00
May	9	1-14 Shoe	42.50	51.00
May	25	2-12 Shoe	77.00	92.00
Mar.	19	Kyle & Munro, Rolla, N. D.		
		1-22 Shoe	58.50	72.00
Mar.	19	Phillip Blank, New Salem, N. D.		
		1-16 Shoe	46.50	57.00
Mar.	21	S. O. Hogen, Northwood, N. D.		
		5-16 Shoe	232.50	290.00
		2-22 Shoe	117.00	156.00
Mar.	21	Allen & Lester, Camby, Minn.		
		2-16 Shoe	93.00	112.00
Mar.	21	N. Thomas, Arlington, Minn.		
		1-22 Shoe	58.50	71.00

1898.			Purchase Price.	Selling Price.
Mar.	21	Russell Bros., Stephen, Minn.		
		1-22 Shoe	58.50	72.00
Mar.	21	S. Christopeson, Dawson, Minn.		
		1-16 Shoe	47.50	56.00
Mar-	21	Wirtz Bros., Leeds, N. D.		
		2-16 Shoe	93.00	116.00
		6-22 Shoe	351.00	450.00
Mar.	22	Kohlhase & Maas, Webster, S. D.		
		6-18 Shoe	303.00	372.00
Mar.	22	Peerless Machine Co., Valley City, N. D.		
		3-18 Shoe	151.50	183.00
Mar.	22	G. Dinwoody, Mipewa, Man.		
		3-16 Shoe	142.50	168.00
Mar.	24	C. V. Brown, Cathay, N. D.		
		3-22 Shoe	175.50	216.00
Mar.	24	Rosholt Berg Co., McIntosh, Minn.		
		3-14 Shoe	127.50	156.00
		3-16 Shoe	139.50	168.00
Mar.	24	Langdon Imp. Co., Langdon, N. D.		
		6-22 Shoe	351.00	426.00
Mar.	25	Clure Imp. Co., New Rockford, N. D.		
		1-22 Shoe	58.50	74.00
		6-20 Shoe	327.00	414.00
Mar.	25	Allen & Lester, Canby, Minn.		
		3-20 Shoe	163.50	198.00
Mar.	25	S. B. Prather, Kerkhoven, Minn.		
		3-18 Shoe	151.50	183.00
		2-22 Shoe	117.00	142.00
Mar.	25	Johnson Leach & Co., Havanna, N. D.		
		1-22 Shoe	13.50	72.00
Mar.	25	A. Tenneson & Co., Albee, S. D.		
		1-18 Shoe	50.50	65.00
		1-20 Shoe	54.50	70.00
Mar.	25	M. H. Campbell & Son, Redfield, S. D.		
		4-18 Shoe	202.00	236.00
		4-20 Shoe	218.00	264.00
Mar.	26	A. Cates, Napinka, Man.		
		1-20 Shoe	54.50	63.00
Mar'	26	Jas. Eadie, Portage LaPrairie, Man.		
		1-22 Shoe	58.50	63.00
Mar.	28	M. R. O'Neil, Graceville, Minn.		
		9-22 Shoe	526.50	639.00
		14-22 Shoe	819.00	994.00
Mar.	28	Jas. Thompson, Cavalier, N. D.		
		2-16 Shoe	93.09	118.00
Mar.	28	Qualey Bros., Kindred, N. D.		
		2-18 Shoe	101.00	124.00
		1-20 Shoe	54.50	68.00
Mar.	28	Morgridge & Merrick, Grand Harbour, N. D.		
		7-22 Shoe	409.00	518.00
		1-18 Shoe	31.00	35.00
Mar.	28	J. P. Reiton, Gilby, N. D.		
		2-22 Shoe	117.00	148.00
Mar.	28	Townsend & Marshall, Sauke Center, Minn.		
		7-20 Shoe	381.50	462.00
		3-16 Shoe	139.50	156.00
Mar.	28	J. J. Guertin, Willow City, N. D.		
		1-18 Shoe	50.50	62.00
		3-20 Shoe	163.50	207.00
Mar.	28	G. O. Hougen, Northwood, N. D.		
		3-20 Shoe	163.50	210.00
		1-16 Shoe	46.50	58.00
Mar.	29	A. Doig, Birtle, Man.		
		2-16 Shoe	93.00	116.00

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1898.			Purchase Price.	Selling Price.
Mar.	29	J. Eadie, Portage LaPrairie, Man.		
		2-22 Shoe	117.00	146.00
Mar.	30	A. J. Ekander, Willmar, Minn.		
		1-18 Shoe	50.50	62.00
Mar.	30	Rose & Allen, Brandt, S. D.		
		2-18 Shoe	101.00	124.00
Mar.	30	Jno. Powers & Co., Murdock, Minn.		
		1-18 Shoe	50.50	65.00
		1-20 Shoe	54.50	68.00
Apr.	4	Wimbledon Machine Co., Wimbledon, N. D.		
		1-22 Shoe	58.50	72.00
Apr.	4	G. O. Hougen, Northwood, N. D.		
		1-16 Shoe	46.50	58.00
		2-20 Shoe	109.00	140.00
		6-22 Shoe	351.00	468.00
Apr.	4	A. R. Henderson, Stoenwall, Man.		
		1-12 Shoe	38.50	43.00
Apr.	5	Jno. Powers, Murdock, Minn.		
		1-16 Shoe	46.50	59.00
Apr.	5	M. R. O'Neil, Graceville, Minn.		
		1-22 Shoe	58.50	71.00
Apr.	5	Townsend & Marshall, Sauk Center, Minn.		
		2-20 Shoe	109.00	132.00
Apr.	5	H. A. Hokanson & Co., Herman, Minn.		
		1-16 Shoe	47.50	56.00
Apr.	5	A. A. Colgrove, Faulkton, S. D.		
		1-16 Shoe	46.50	54.00
Apr.	5	Bisemus & Eich, St. Cloud, Minn.		
		1-14 Shoe	42.50	51.00
Apr.	5	S. B. Prather, Kerkhoven, Minn.		
		1-16 Shoe	46.50	56.00
Apr.	5	Jacobson & Peterson, Elbow Lake, Minn.		
		1-16 Shoe Drill	46.50	56.00
Apr.	6	A. J. Ekander, Willmar, Minn.		
		2-16 Shoe	93.00	114.00
Apr.	6	A. A. Colgrove, Faulkton, S. D.		
		1-16 Shoe	46.50	54.00
Apr.	6	S. B. Prather, Kerkhoven, Minn.		
		1-16 Shoe	46.50	56.00
Apr.	6	G. O. Hougen, Aneta, N. D.		
		2-16 Shoe	93.00	116.00
		5-20 Shoe	272.50	350.00
		4-22 Shoe	234.00	312.00
Apr.	6	Wirtz Bros., Churches Ferry, N. D.		
		2-16 Shoe	93.00	116.00
		4-20 Shoe	218.00	280.00
Apr.	6	Merry & Williams, Carmen, Man.		
		1-20 Shoe	54.50	68.00
Apr.	6	H. F. Anderson, Winnipeg, Man.		
		2-12 Shoe	77.00	92.00
Apr.	9	Townsend & Marshall, Sauk Center. Minn.		
		1-16 Shoe	46.50	52.00
Apr.	23	P. Blank, New Salem, N. D.		
		1-14 Shoe	42.50	52.00
Dec.	30	S. Collins, Grand Forks, N. D.		
		1-22 Shoe	58.50	72.00
Dec.	30	H. Bennett, Larimore, N. D.		
		1-18 Shoe	50.50	61.00
Dec.	30	Ing Moen, Hunter, N. D.		
		1-20 Shoe	56.50	72.00
Dec.	30	Chas. Aldrich, Henry, S. D.		
		1-18 Shoe	50.50	61.00
Dec.	30	R. Hemming & Co., Herman, Minn.		
		1-20 Shoe	54.50	66.00
Dec.	30	Townsend & Marshall, Sauk Center, Minn.		
		1-16 Shoe	46.50	56.00

1899.			Purchase Price.	Selling Price.
		10-22 Shoe		(720.00
Mar.	4	Allen & Lester, Canby, Minn.		
		2-16 Shoe		(112.00
		3-18 Shoe	462.00	(186.00
		3-20 Shoe		(198.00
		1-22 Shoe		(72.00
Mar.	4	Morse & Co., Taunton, Minn.		
		3-16 Shoe		(168.00
		4-18 Shoe	670.00	(248.00
		4-20 Shoe		(264.00
		2-22 Shoe		(144.00
Mar.	6	Frank Voyek, Lidgerwood, N. D.		
		1-16 Shoe	46.00	60.00
Mar.	7	Townsend & Marshall, Sauk Center, Minn.		
		1-16 Shoe	46.00	56.00
Mar.	7	Wm. Hoefling, Fergus Falls, Minn.		
		1-16 Shoe	46.00	56.00
Mar.	8	Leslie & Wilson, Saskattan, N. W. T.		
		2-16 Shoe	92.00	120.00
Mar.	10	P. Stianson & Co., Becker, Minn.		
		1-12 Shoe	38.00	46.00
Mar.	10	Dietrich & Engel, New Prague, Minn.		
		1-12 Shoe	38.00	46.00
		1-16 Shoe	46.00	56.00
Mar.	10	C. Aldrich, Henry, S. D.		
		1-18 Shoe	50.00	61.00
Mar.	11	Larson & Evan, Evan, Minn.		
		2-18 Shoe	100.00	122.00
Mar.	11	H. L. Beiseker, Fessenden, N. D.		
		2-16 Shoe	92.00	116.00
		3-18 Shoe	150.00	192.00
Mar.	4	A. Tenneson & Co., Albee, S. D.		
		4-20 Shoe	216.00	264.00
		2-18 Shoe	100.00	122.00
Mar.	11	Jno. Scott & Co., Fosston, Minn.		
		1-14 Shoe Drill	42.00	52.00
Mar.	11	Langdon Implement Co., Langdon, N. D.		
		2-16 Shoe	92.00	112.00
		5-18 Shoe	250.00	305.00
		3-20 Shoe	162.00	198.00
		9-22 Shoe	522.00	639.00
Mar.	14	Wilson & Nayes. Fingal, N. D.		
		1-18 Shoe	50.00	61.00
		2-20 Shoe	108.00	134.00
		1-22 Shoe	58.00	71.00
Mar.	14	Hanson & Grumet, Stewart, Minn.		
		1-20 Shoe	54.00	66.00
		1-22 Shoe	58.00	71.00
Mar.	16	Lee & Lee, Gladstone, N. D.		
		1-14 Shoe	49.00	62.40
Mar.	17	Wm. Mais, Webster, S. D.		
		10-18 Shoe	500.00	610.00
		2-20 Shoe	108.00	132.00
		3.16 Shoe	138.00	168.00
Mar.	17	Larson & Hanson, Evan, Minn.		
		1-14 Shoe	42.00	51.00
		1-20 Shoe	54.00	66.00
Mar.	17	Jno. R. McKinnon, Crookston, Minn.		
		6-16 Shoe	276.00	348.00
		8-18 Shoe	400.00	496.00
		5-20 Shoe	270.00	335.00
Mar.	17	H. A. Strand, Towner. N. D.		
		1-20 Shoe	54.00	70.00

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1899.			Purchase Price.	Selling Price.
Mar.	17	A. Hemming & Co., Herman, Minn.		
		4-22 Shoe	232.00	264.00
		5-20 Shoe	270.00	330.00
		1-16 Shoe	46.00	56.00
Mar.	20	Townsend & Marshall, Sauk Center, Minn.		
		4-16 Shoe	184.00	224.00
Mar.	20	A. J. Ekander, Willmar, Minn.		
		1-12 Shoe	38.00	46.00
Mar.	20	Wirtz Bros., Leeds, N. D.		
		2-16 Shoe	92.00	114.00
		3-20 Shoe	162.00	201.00
		5-22 Shoe	290.00	355.00
Mar.	20	Peerless Machine Co., Valley City, N. D.		
		3-18 Shoe	150.00	186.00
		1-22 Shoe	58.00	72.00
Mar.	20	Swendseid Bros., Petersburg, N. D.		
		1-16 Shoe	46.00	56.00
		2-18 Shoe	100.00	124.00
Mar.	20	Langdon Imp. Co., Langdon, N. D.		
		11-22 Shoe	638.00	781.00
Mar.	21	Labossure & Gerouard, Somerset, Man.		
		1-14 Shoe	42.00	51.00
		2-16 Shoe	92.00	112.00
Mar.	23	Yook & Hemming, Renville, Minn.		
		2-16 Shoe	92.00	112.00
		2-18 Shoe	100.00	122.00
		1-20 Shoe	54.00	66.00
Mar.	23	Gever Bros., Ortonville, Minn.		
		1-16 Shoe	46.00	56.00
		1-18 Shoe	50.00	61.00
Mar.	23	Wm. Mais, Webster, S. D..		
		1-16 Shoe	46.00	56.00
Mar.	23	F. Voyek, Lidgerwood, N. D.		
		2-20 Shoe	108.00	136.00
Mar.	23	L. E. Horton & Co., Wahpeton, N. D.		
		1-18 Shoe	51.00	63.00
Mar.	23	A. Tenneson & Co., Albee, S. D.		
		2-20 Shoe	108.00	132.00
		1-18 Shoe	50.00	61.00
Mar.	27	Jno. Eisnach, Estelline, S. D.		
		2-18 Shoe Drill	100.00	130.00
Mar.	27	Princeton Hdw. Co., Princeton, Minn.		
		1-12 Shoe	38.00	46.00
Mar.	27	H. M. Griffin, Marietta, Minn.		
		1-18 Shoe	50.00	61.00
		1-20 Shoe	54.00	66.00
Mar.	27	Chas. Aldrich, Henry, S. D.		
		1-22 Shoe	58.00	71.00
Mar.	27	Wm. Mais, Webster, S. D.		
		3-22 Shoe	174.00	213.00
		3-20 Shoe	162.00	198.00
		3-18 Shoe	150.00	183.00
Mar.	30	Wirtz Bros., Churches Ferry, N. D.		
		3-16 Shoe	138.00	171.00
		8-22 Shoe	464.00	568.00
Mar.	30	A. Hemming & Co., Herman, Minn.		
		2-18 Shoe	100.00	122.00
		3-20 Shoe	162.00	198.00
		3-22 Shoe	174.00	213.00
		1-16 Shoe	46.00	56.00
Apr.	5	P. G. Bush, Hazel, S. D.		
		10-20 Shoe	540.00	660.00
		2-16 Shoe	92.00	112.00

1899.			Purchase Price.	Selling Price.
Apr.	5	R. A. Costello, Graceville, Minn.		
		7-22 Shoe	406.00	497.00
Apr.	5	O. O. Field, Mayville, N. D.		
		2-22 Shoe	116.00	144.00
Apr.	7	A. Hemming & Co., Herman, Minn.		
		1-22 Shoe	58.00	71.00
Apr.	7	H. A. Strand, Towner, N. D.		
		1-16 Shoe	44.00	55.80
Apr.	10	W. J. Doig, Russell, Man.		
		1-22 Shoe	58. 00	71.00
Apr.	11	Larson & Hanson, Evan, Minn.		
		1-18 Shoe	50.00	61.00
Apr.	13	Morgridge & Merrick, Grand Harbor, N. D.		
		1-16 Shoe	46.00	56.00
Apr.	13	A. Hemming & Co., Herman, M nn.		
		1-18 Shoe	50.00	61.00
Apr.	13	H. A. Strand, Towner, N. D.		
		1-18 Shoe	50.00	64.00
Apr.	17	H. A. Strand, Towner, N. D.		
		1-18 Shoe	50.00	64.00
Apr.	17	P. G. Bush, Hazel, S. D.		
		1-20 Shoe	54.00	66.00
Sept.	28	Hobensack & Stoddard, Lewiston, Mont.		
		1-14 Shoe	42.00	53.00
Dec.	28	E. S. Dunn, Bryant, S. D.		
		1-20 Shoe	59.40	74.00
1900.				
Jan.	6	R. A. Costello, Graceville, Minn.		
		1-22 Shoe	63.80	80.00
Jan.	12	Larson & Pfeiffer, Evan, Minn.		
		1-16 Shoe	50.60	62.00
Jan.	12	A. Hemming & Co., Herman, Minn.		
		4-20 Shoe	237.60	320.00
Jan.	18	E. Eastenson, Lamberton, Minn.		
		1-18 Shoe	55.00	68.00
Jan.	26	W. W. Toner, Belview, Man.		
		1-22 Shoe	63.80	80.00
Jan.	26	Kennedy Bros., Eureka, S. D.		
		3-16 Shoe	151.80	186.00
Jan.	26	A. Tenneson & Co., Albee, S. D.		
		2-18 Shoe	110.00	136.00
Jan.	26	A. Tenneson & Co., Albee, S. D.		
		5-20 Shoe Drill	297.00	370.00
Jan.	26	Lindberg & Lungren, Warren, Minn.		
		2-16 Shoe	101.20	124.00
		4-18 Shoe	220.00	272.00
		4-20 Shoe	237.60	296.00
		6-22 Shoe	382.80	480.00
Feb.	1	K. O. Lee, Aberdeen, S. D.		
		1-20 Shoe	59.40	74.00
		2-22 Shoe	127.60	160.00
Feb.	1	Watsche & Hansing, Morton, Minn.		
		1-18 Shoe	55.00	68.00
Feb.	1	Langfitt & Co., Hutchinson, Minn.		
		1-12 Shoe	41.80	51.00
		1-14 Shoe	46.20	56.00
		1-16 Shoe	50.60	62.00
Feb.	1	Koesel & Co., Gladstone, N. D.		
		2-16 Shoe	101.20	124.00
Feb.	1	Dunn & Lee, Jackson, Minn.		
		1-16 Shoe	50.60	62.00
Feb.	3	Ekander & Sletter, Willmar, Minn.		
		3-16 Shoe	151.35	186.00

1900.		Purchase Price.	Selling Price.
	2-18 Shoe	109.50	136.90
	1-20 Shoe	59.10	74.00
	1-22 Shoe	63.45	80.00
Feb. 5	A. A. Colgrove, Faulkton, S. D.		
	2-20 Shoe	118.80	148.00
Feb. 5	Wirtz Bros., Leeds, N. D.		
	3-16 Shoe	151.80	186.00
	3-20 Shoe	178.20	222.00
Feb. 5	Kyle & Munro, Rolla, N. D.		
	4-16 Shoe	202.40	248.00
Feb. 5	Forbes & Honeyford, Bisbee, N. D.		
	3-16 Shoe	151.80	186.00
	2-20 Shoe	118.80	148.00
	2-22 Shoe	127.60	160.00
Feb. 5	F. M. Reynolds, Bathgate, N. D.		
	5-22 Shoe	319.00	400.00
Feb. 7	Kyle & Munro, Rolla, N. D.		
	10-22 Shoe	638.00	800.00
Feb. 7	Florence & Co., Humboldt, Minn.		
	1-20 Shoe	59.40	74.00
Feb. 13	L. E. Horton & Co., Wahpeton, N. D.		
	3-18 Shoe		(210.00
	3-20 Shoe	1113.30	(222.00
	12-22 Shoe		(960.00
Feb. 13	Westerson & Johnson, Hallock, Minn.		
	2-16 Shoe	101.20	124.00
	3-20 Shoe	178.20	222.00
	4-22 Shoe	255.20	320.00
Feb. 13	Peerless Machine Co., Valley City, N. D.		
	6-16 Shoe	303.60	372.00
	3-22 Shoe	191.40	240.00
Feb. 13	H. K. Nelson, Elbow Lake, Minn.		
	2-16 Shoe	101.20	124.00
	2-18 Shoe	110.00	136.00
	4-20 Shoe	237.60	296.00
	1-22 Shoe	63.80	80.00
Feb. 13	Wm. Mais, Webster, S. D.		
	1-18 Shoe	55.00	68.00
Feb. 13	M. H. Campbell & Son, Redfield, S. D.		
	1-18 Shoe	55.00	68.00
	4-20 Shoe	237.60	296.00
Feb. 13	H. Bennett, Larimore, N. D.		
	9-22 Shoe	574.20	720.00
	2-20 Shoe	118.80	148.00
Feb. 13	Wilson & Nayes, Fingal, N. D.		
	1-18 Shoe Drill	55.00	70.00
Feb. 13	C. F. W. Mellenthin, Sleepy Eye, Minn.		
	3-16 Shoe	151.80	186.00
	2-20 Shoe	118.80	148.00
	1-22 Shoe	63.80	80.00
Feb. 17	Doster & Fritsche, Lamberton, Minn.		
	2-16 Shoe		(124.00
	9-18 Shoe	1139.60	(612.00
	7-20 Shoe		(518.00
	2-22 Shoe		(160.00
Feb. 17	Madsen Oxholm & Pederson, Tyler, Minn.		
	2-16 Shoe	101.20	124.00
	1-20 Shoe	59.40	74.00
Feb. 17	Hanson & Grunnet, Stewart, Minn.		
	2-16 Shoe	101.20	124.00
	2-20 Shoe	118.80	148.00
	1-22 Shoe	63.80	80.00
Feb. 17	R. W. Zuel, Windom, Minn.		
	1-16 Shoe	50.60	64.00
	1-18 Shoe	55.00	70.00

1900.			Purchase Price.	Selling Price.
Feb.	21	Glen Ullin, Lbr. & Imp. Co., Glen Ullin, N. D.		
		3-12 Shoe	125.40	153.00
		1-14 Shoe	46.20	56.00
Feb.	21	Wm. Maas, Webster, S. D.		
		9-18 Shoe		(612.00
		9-20 Shoe	1157.20	(666.00
		2-22 Shoe		(160.00
Feb.	22	Nelson & Nelson, Canby, Minn.		
		2-18 Shoe	110.00	136.00
		3-20 Shoe	178.20	222.00
		1-22 Shoe	63.80	80.00
Feb.	22	H. L. Beiseker, Fessenden, N. D.		
		2-18 Shoe	110.00	136.00
		2-20 Shoe	118.80	148.00
Feb.	22	Springen & Eastvold, Mayville, N. D.		
		12-22 Shoe	765.60	960.00
Feb.	22	Morgridge & Merrick, Grand Harbor, N. D.		
		2-16 Shoe	101.20	124.00
		8-20 Shoe	475.20	592.00
Feb.	26	E. S. Dunn, Bryant, S. D.		
		4-18 Shoe	220.00	272.00
		5-20 Shoe	297.00	370.00
		2-22 Shoe	127.60	160.00
		1-16 Shoe	50.60	62.00
Feb.	26	Wirtz Bros., Churches Ferry, N. D.		
		1-16 Shoe	50.60	62.00
		2-20 Shoe	118.80	148.00
Feb.	26	Geo. Campbell, Walhalla, N. D.		
		1-16 Shoe	50.60	62.00
Mar.	1	Essig Bros., Springfield, Minn.		
		2-20 Shoe	118.80	148.00
		2-22 Shoe	127.60	160.00
Mar.	2	Langdon Imp. Co., Langdon, N. D.		
		3-18 Shoe	165.00	204.00
Mar.	2	C. V. Brown, Cathay, N. D.		
		2-20 Shoe	118.80	148.00
		4-22 Shoe	255.20	320.00
Mar.	2	Neil Thompson, Cavalier, N. D.		
		2-18 Shoe	110.00	136.00
		2-22 Shoe	127.60	160.00
Mar.	2	Frank Voyek, Lidgerwood, N. D.		
		2-20 Shoe	118.80	148.00
		1-22 Shoe	63.80	80.00
Mar.	7	W. Casement, Inkster, N. D.		
		4-22 Shoe Drill	253.80	320.00
Mar.	10	Larson & Pfeiffer, Evan, Minn.		
		2-16 Shoe		(124.00
		12-18 Shoe		(816.00
		8-20 Shoe	1300.20	(592.00
		1-22 Shoe		(80.00
Mar.	14	Anderson & Petter, Elmore, Minn.		
		1-18 Shoe	55.00	70.00
		1-20 Shoe	59.40	76.00
Mar.	14	McDougall Bros., McVille, N. D.		
		2-18 Shoe	110.00	136.00
		2-22 Shoe	127.60	160.00
Mar.	15	R. W. Zuel, Jeffers, Minn.		
		2-16 Shoe	101.20	128.00
		5-18 Shoe	275.00	350.00
		3-20 Shoe	178.20	228.00
Mar.	15	H. M. Griffin, Marietta, Minn.		
		2-18 Shoe	110.00	136.00
Mar.	16	Madson Oxholm & Pederson, Tyler, Minn.		
		1-14 Shoe	46.20	56.00

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1900.			Purchase Price.	Selling Price.
Mar.	16	P. G. Buch, Watertown, S. D.		
		8-20 Shoe	475.20	592.00
Mar.	16	Ekanders & Sletter, Willmar, Minn.		
		2-12 Shoe	83.60	102.00
Mar.	17	Forbes & Honeyford, Bisbee, N. D.		
		3-22 Shoe	191.40	240.00
Mar.	17	W. M. Heusche, Chaffee, N. D.		
		8-22 Shoe	507.60	640.00
Mar.	17	Langdon Imp. Co., Langdon, N. D.		
		8-16 Shoe		(496.00
		4-18 Shoe	1262.80	(272.00
		10-22 Shoe		(800.00
Mar.	21	Larson & Cooper, Courtenay, N. D.		
		2-18 Shoe	110.00	136.00
		4-22 Shoe	255.20	320.00
Mar.	21	J. R. Reiton, Gilby, N. D.		
		2-22 Shoe	127.60	160.00
Mar.	21	Carrington Machine Co., Carrington, N. D.		
		2-20 Shoe	118.80	148.00
		6-22 Shoe	382.80	480-00
Mar.	21	Max Schultz, New Salem, N. D.		
		4-20 Shoe	129.80	162.00
		2-12 Shoe	71.50	88.00
Mar.	21	P. J. Johnsrud, Fertile, Minn.		
		2-16 Shoe	101.20	124.00
		2-18 Shoe	110.00	136.00
		4-20 Shoe	237.60	296.50
Mar.	22	H. K. Pennington & Co., Milner, N. D.		
		2-22 Shoe	127.60	160.00
Mar.	22	H. A. Strand. Towner, N. D.		
		3-16 Shoe	151.80	186.00
		2-20 Shoe	118.80	148.00
		2-22 Shoe	127.60	160.00
Mar.	22	Jno. Munro, Rolla, N. D.		
		5-16 Shoe	253.00	310.00
Mar.	22	Halverson & Stangeland, Brandt, S. D.		
		2-20 Shoe	118.80	148.00
		1-22 Shoe	63.80	80.00
Mar.	23	Madsen Oxholm & Peterson, Tyler, Minn.		
		2-14 Shoe	92.40	112.00
Mar.	23	Andsrson & Petters, Elmore, Minn.		
		2-18 Shoe	110.00	140.00
Mar.	23	F. C. Benjamin, Westport, S. D.		
		3-22 Shoe	191.40	240.00
Mar.	23	Schoening Bros.,Appleton, Minn.		
		1-18 Shoe	55.00	68.00
Apr.	2	Carlberg Bros., Sisseton, S. D.		
		1-18 Shoe Drill	55.00	68.00
Apr.	2	W. W. Zener, Belview, Minn.		
		2-18 Shoe	110.00	136.00
		3-20 Shoe	178.20	222.00
Apr.	2	H. K. Nelson, Elbow Lake, Minn.		
		1-14 Shoe	46.20	56.00
Apr.	2	Wm. Maas, Webster, S. D.		
		1-18 Shoe	30.00	37.50
Apr.	2	F. C. Benjamin, Webster, S. D.		
		1-22 Shoe	63.80	80.00
Apr.	10	A. Hemming & Co., Herman, Minn.		
		8-20 Shoe	475.20	592.00
		1-18 Shoe	55.00	68.00
		1-16 Shoe	50.60	62.00
		1-20 Shoe	59.40	74.00
Apr.	10	Halverson & Stangeland, Brandt, S. D.		
		1-20 Shoe	59.40	74.00

1900.			Purchase Price.	Selling Price.
Apr.	10	Geo. Campbell & Son, Walhalla, N. D.		
		1-18 Shoe	55.00	62.00
Apr.	10	Menzel Bros., Odessa, Minn.		
		1-18 Shoe	55.00	68.00
Sept.	27	Jos. B. Biebl, Gibbon, Minn.		
		1-16 Shoe	50.60	60.00
1901.				
Jan.	5	Geo. Campbell & Son, Walhalla, N. D.		
		1-16 Shoe	50.60	60.00
Jan.	7	W. W. Toner, Belview, Minn.		
		1-20 Shoe	59.40	72.00
Jan.	28	A. J. E. Kander, Willmar, Minn.		
		1-18 Shoe	55.00	64.50
Feb.	1	Larson & Dahl, Cottonwood, Minn.		
		1-20 Shoe	59.40	72.00
Feb.	2	Wm. Leonard, Park River, N. D.		
		1-20 Shoe	59.40	70.00
Feb.	2	Farmers Whse. Assn., Sleepy Eye, Minn.		
		2-18 Shoe		(132.00
		2-20 Shoe	581.10	(144.00
		6-22 Shoe		(468.00
Feb.	3	Nelson & Co., Hendricks, Minn.		
		1-16 Shoe	48.30	60.00
		3-18 Shoe	157.50	193.50
		5-20 Shoe	283.50	350.00
		1-22 Shoe	60.90	78.00
Feb.	8	Nelson & Nelson, Canby, Minn.		
		3-18 Shoe	156.90	193.50
		3-20 Shoe	169.35	210.00
Feb.	8	Spokef & Benthin, Castewood, S. D.		
		2-20 Shoe	113.40	140.00
Feb.	11	Helling & Halverson, Montevideo, Minn.		
		3-16 Shoe	144.90	180.00
		1-18 Shoe	52.50	66.00
		12-20 Shoe	680.40	864.00
		4-22 Shoe	243.60	312.00
Feb.	11	E. M. Hanson & Co., Stewart, Minn.		
		1-16 Shoe	48.30	59.00
		2-20 Shoe	113.40	142.00
		2-22 Shoe	121.80	152.00
Feb.	11	Frank Voyek, Lidgerwood. N. D.		
		2-20 Shoe	113.40	140.00
		1-22 Shoe	60.90	75.50
Feb.	14	W. F. Lammers, Gibbon, Minn.		
		1-16 Shoe	48.30	60.00
		1-18 Shoe	52.50	66.00
		2-20 Shoe	113.40	144.00
		1-22 Shoe	60.90	78.00
Feb.	18	J. G. Rathburn, Sisseton, S. D.		
		1-18 Shoe	52.50	64.50
		4-20 Shoe	226.80	280.00
		1-22 Shoe	60.90	75.50
Feb.	16	J. L. Hellenbach, Mansfield, S. D.		
		3-20 Shoe	170.10	210.00
		2-22 Shoe	121.80	151.00
Feb.	19	Thoreson & Ulstad, Devils Lake, N. D.		
		3-16 Shoe	144.90	180.00
		7-22 Shoe	426.30	525.00
Feb.	20	Miller & Hansen, Willow City, N. D.		
		2-18 Shoe	105.00	131.00
Feb.	23	Forbes & Honeyford, Bisbee, N. D.		
		1-16 Shoe	48.30	60.00

1901.

			Purchase Price.	Selling Price.
		3-20 Shoe	170.10	210.00
		3-22 Shoe	182.70	225.00
Feb.	23	J. R. Reiton, Gilby, N. D.		
		2-22 Shoe	121.80	150.00
Feb.	26	G. J. Swanson, Stransberg, S. D.		
		1-20 Shoe	56.70	70.00
Mar.	1	E. O. Berg, Madison, Minn.		
		1-20 Shoe	56.70	72.00
Mar.	1	Clara City Lbr. Co., Clara City, Minn.		
		1-16 Shoe	48.30	60.00
		1-18 Shoe	52.50	66.00
		1-20 Shoe	56.70	72.00
Mar.	1	A. J. Ekander, Willmar, Minn.		
		1-18 Shoe	52.50	64.50
		1-20 Shoe	56.70	70.00
		2-16 Shoe	96.60	118.00
		4-18 Shoe	210.00	258.00
		4-20 Shoe	226.80	280.00
Mar.	1	Granite Falls Hdw. Co., Granite Falls, Minn.		
		1-20 Shoe	56.70	72.00
Mar.	1	J. & J. V. Makovicka, Jackson, Minn.		
		1-16 Shoe	48.30	60.00
Mar.	2	C. Aldrich, Henry, S. D.		
		1-18 Shoe	52.50	64.50
Mar.	2	Kramer & Bennett, Lakota, N. D.		
		3-20 Shoe	170.10	210.00
		3-22 Shoe	182.70	225.00
Mar.	6	A. A. Colgrove, Faulkton, S. D.		
		1-20 Shoe	56.70	70.00
Mar.	18	Wirtz Bros., York, N. D.		
		1-16 Shoe	48.30	60.00
		3-20 Shoe	170.10	210.00
		2-22 Shoe	121.80	151.00
Mar.	19	C. Aldrich, Henry, S. D.		
		2-16 Shoe	98.60	118.00
		4-18 Shoe	210.00	258.00
		8-20 Shoe	453.60	560.00
		2-22 Shoe	121.80	151.00
Mar.	19	J. L. Hollenbeck, Mansfield, S. D.		
		1-20 Shoe	56.70	70.00
Mar.	19	McDougall Bros., McVille, N. D.		
		1-16 Shoe	48.30	59.00
		1-18 Shoe	52.50	64.50
		1-22 Shoe	60.90	75.50
Mar.	19	Wirtz Bros., Churches Ferry, N. D.		
		1-16 Shoe	48.30	60.00
		2-20 Shoe	113.40	140.00
		2-22 Shoe	121.80	150.00
Mar.	20	Gilbertson & Lunde, St. James, Minn.		
		1-16 Shoe	48.30	60.00
		1-20 Shoe	56.70	72.00
Mar.	20	Tabbert Bros., Jeffers, Minn.		
		2-22 Shoe Drill	121.50	156.00
Mar.	21	DePue Bros., Danvers, Minn.		
		1-18 Shoe	52.50	64.50
		3-20 Shoe	170.10	214.00
		2-22 Shoe	121.80	150.00
		1-18 Shoe	52.50	60.50
Mar.	21	Watsche & Mathes, Morton, Minn.		
		1-18 Shoe	52.50	64.50
		1-20 Shoe	60.90	70.00
Apr.	1	Sletten Bros., Hoffman, Minn.		
		1-16 Shoe	48.30	59.00
Apr.	2	Brown & Mattson, Kennedy, Minn.		
		1-22 Shoe	60.90	75.00

1901.			Purchase Price.	Selling Price.
Apr.	2	A. Hemming, Herman, Minn.		
		3-18 Shoe	157.50	193.50
		5-22 Shoe	304.50	377.50
		2-20 Shoe	113.50	140.00
Mar.	7	Geo. T. McLean, Forest River, Minn.		
		2-22 Shoe	121.80	150.00
Mar.	11	F. C. Benjamin, Westport, S. D.		
		2-22 Shoe	121.80	151.00
Mar.	11	Dorster & Fritche, Lamberton, Minn.		
		6-16 Shoe	289.80	360.00
		10-18 Shoe	525.00	660.00
		4-20 Shoe	226.80	288.00
		2-22 Shoe	121.80	156.00
Mar.	11	Jno. Mubro, Rolla, N. D.		
		6-16 Shoe	340.20	354.00
		6-22 Shoe	365.40	450.00
Mar.	12	Jordan Bros., Beardsley, Minn.		
		3-22 Shoe	182.70	226.50
Mar.	12	G. J. Swanson, Strandberg, S. D.		
		1-18 Shoe	52.50	64.50
Mar.	18	Sletten Bros., Hoffman, Minn.		
		1-16 Shoe	48.30	60.00
Mar.	13	Stull & Wilson, Cavalier, N. D.		
		1-16 Shoe	48.30	60.00
		1-18 Shoe	52.50	65.00
		2-22 Shoe	121.80	150.00
Mar.	14	A. Hemming & Co., Herman, Minn.		
		1-22 Shoe	60.90	75.50
Mar.	14	Madson Oxholm & Pederson, Tyler, Minn.		
		1-16 Shoe	48.30	59.00
Mar.	15	W. W. Toner, Belview, Minn.		
		1-18 Shoe	52.50	66.00
		1-16 Shoe	48.30	60.00
Mar.	16	Madson Oxholm & Pederson, Tyler, Minn.		
		8-14 Shoe	352.80	432.00
		4-16 Shoe	193.20	236.00
		2-18 Shoe	105.00	130.00
		4-20 Shoe	226.80	284.00
		1-22 Shoe	60.90	76.00
Mar.	18	Fritche & Johnson, Albert Lea, Minn.		
		1-14 Shoe	44.10	54.00
Mar.	18	J. G. Rathburn, Webster, S. D.		
		1-20 Shoe	56.70	70.00
Mar.	18	Sletten Bros., Hoffman, Minn.		
		1-16 Shoe	48.30	60.00
Mar.	18	G. J. Swanson, Strandberg, S. D.		
		1-22 Shoe	60.90	75.50
Apr.	2	Sletten Bros., Hoffman, Minn.		
		1-16 Shoe	48.30	59.00
Apr.	3	H. K. Nelson, Elbow Lake, Minn.		
		1-16 Shoe	48.30	59.00
Apr.	4	W. F. Stege, Courtland, Minn.		
		1-20 Shoe	56.70	72.00
Apr.	4	G. J. Swanson, Strandberg, Minn.		
		1-18 Shoe	52.50	64.50
Apr.	4	Wirtz Bros., Leeds, N. D.		
		1-16 Shoe Drill	48.30	60.00
		1-20 Shoe	56.70	70.00
Apr.	11	Hoffland Bros., Hillsboro, N. D.		
		1-22 Shoe	60.90	75.00
Apr.	12	J. T. & W. J. Robb, Winona, Minn.		
		1-22 Shoe	60.90	75.00
Apr.	20	Geo. Campbell & Son, Walhalla, N. D.		
		1-22 Shoe	60.90	76.00

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1901.			Purchase Price.	Selling Price.
July	10	A. E. Buttke, Taunton, Minn.		
		1-20 Shoe	56.70	72.00
July	24	Arnold & Fritsche, New Ulm, Minn.		
		1-22 Shoe	60.90	78.00
1902.				
Feb.	4	Jno. Nelson, Jr., Rushford, Minn.		
		1-16 Shoe	44.08	59.00
Feb.	4	Nelson & Nelson, Canby, Minn.		
		1-18 Shoe	47.88	66.00
		1-20 Shoe	51.68	72.00
Feb.	8	Forbes & Honeyford, Bisbee, N. D.		
		2-16 Shoe	88.16	120.00
		4-20 Shoe	206.72	280.00
		6-22 Shoe	338.88	450.00
Feb.	18	Estresvaag & Mork, Souris, N. D.		
		1-16-Shoe	44.08	60.00
		1-18 Shoe	47.88	65.00
Feb.	19	Klemmer & Bennett, Edmore, N. D.		
		2-16 Shoe	88.16	120.00
		1-18 Shoe	95.76	130.00
		4-20 Shoe	206.72	280.00
		2-22 Shoe	112.96	150.00
Feb.	20	Wright & Stevens, Crary, N. D.		
		1-16 Shoe	44.08	60.00
		1-20 Shoe	51.68	70.00
		1-22 Shoe	56.48	75.00
Feb.	24	Flaa Bros., Boyd, Minn.		
		1-16 Shoe	44.08	61.50
		1-20 Shoe	51.68	70.50
Feb.	24	J. G. Rathburn, Webster, S. D.		
		1-18 Shoe	47.88	65.00
Feb.	25	McEwen, Dougherty & Shuley, Edenburg, N. D.		
		2-20 Shoe	103.36	140.00
		2-22 Shoe	112.96	150.00
Feb.	26	Arnold & Fritsche, New Ulm, Minn.		
		1-16 Shoe	44.08	61.50
Feb.	27	Jno. Munro, Rolla, N. D.		
		8-16 Shoe	383.04	480.00
		2-20 Shoe	103.36	140.00
		4-22 Shoe	225.92	300.00
Feb.	27	Tennyson O,Leary & Co., Albee, S. D.		
		2-20 Shoe	103.36	140.00
Mar.	3	Hitchcock & Keating, Crookton, Minn.		
		2-18 Shoe	95.76	130.00
		2-20 Shoe	103.36	140.00
		2-22 Shoe	112.96	150.00
Mar.	3	Wirtz Bros., York, N. D.		
		2-16 Shoe	88.16	120.00
		3-18 Shoe	143.64	195.00
		4-20 Shoe	206.72	280.00
		1-22 Shoe	56.48	75.00
Mar.	5	Farmers Whse. Assn., Sleepy Eye, Minn.		
		1-20 Shoe Drill	51.68	72.00
		4-22 Shoe	225.92	312.00
Mar.	5	J. L. Hollenbach, Mansfield, S. D.		
		4-20 Shoe	206.72	286.00
		1-22 Shoe	56.48	75.00
Mar.	6	J. G. Swanson, Strandberg, S. D.		
		3-18 Shoe	143.64	195.00
		2-20 Shoe	103.36	140.00
Mar.	8	Sletten Bros., Hoffman, Minn.		
		4-18 Shoe	191.52	260.00

1902			Purchase Price.	Selling Price.
		1-20 Shoe	51.68	70.00
		2-14 Shoe	80.56	110.00
Mar.	10	E. M. Hanson, Stewart, Minn.		
		2-16 Shoe	88.16	120.00
		3-20 Shoe	155.04	216.00
		1-22 Shoe	56.48	77.00
Mar.	10	W. F. Stege, Courtland, Minn.		
		1-16 Shoe	48.08	61.00
		1-20 Shoe	51.08	72.00
		1-22 Shoe	56.48	78.00
Mar.	11	J. G. Campbell, Perth, N. D.		
		3-16 Shoe	132.24	180.00
		1-18 Shoe	47.88	65.00
		3-20 Shoe	155.04	210.00
		4-22 Shoe	225.92	300.00
Mar.	13	Arnold & Fritche, New Ulm, Minn.		
		1-16 Shoe	44.08	61.50
		1-18 Shoe	47.88	67.00
Mar.	14	A. Hemming, Herman, Minn.		
		3-20 Shoe	155.04	210.00
Mar.	15	Langdon, Imp. Co., Langdon, N. D.		
		1-18 Shoe	47.88	65.00
Mar.	15	McEwan, Dougherty & Dailey Bros., Conway, N. D.		
		2-20 Shoe	103.36	140.00
		2-22 Shoe	112.96	150.00
Mar.	15	Peerless Machine Co., Valley City, N. D.		
		1-22 Shoe	56.48	78.00
Mar.	15	J. P. Reiton, Gilby. N. D.		
		2-22 Shoe	112.96	150.00
Mar.	21	Arnold & Fritche, New Ulm, Minn.		
		6-16 Shoe	264.48	369.00
		1-18 Shoe	47.88	67.00
		3-20 Shoe	155.04	217.50
		5-22 Shoe	282.40	390.00
		1-16 Shoe	44.08	61.50
		1-20 Shoe	51.68	72.50
Mar.	24	Haight Lbr. & Mch. Co., Mandan, N. D.		
		1-16 Shoe	44.08	61.50
Mar.	24	Wirtz Bros., Churches Ferry, N. D.		
		2-20 Shoe	103.36	140.00
		2-22 Shoe	112.96	150.00
Mar.	25	McDougall Bros., McVille, N. D.		
		3-22 Shoe	169.44	228.00
Mar.	26	Wirtz Bros., Churches Ferry, N. D.		
		1-20 Shoe	51.68	70.00
		1-22 Shoe	56.48	75.00
Mar.	26	Geo. Campbell & Son, Walhalla, N. D.		
		1-22 Shoe	56.48	78.00
Mar.	29	P. H. Peterson, Bagley, Minn.		
		1-10 Shoe	34-15	46.00
		1-12 Shoe	35.48	48.50
Apr.	2	Geo. Campbell & Son, Walhalla, N. D.		
		2-20 Shoe	103.36	142.00
Apr.	2	Larson & Miller, Courtenay, N. D.		
		2-16 Shoe	88.16	120.00
		2-20 Shoe	103.36	140.00
		2-22 Shoe	112.96	150.00
Apr.	2	W. F. Stege, Courtland, Minn.		
		1-16 Shoe Drill	44.08	61.00
Apr.	4	Wirtz Bros., Leeds, N. D.		
		2-20 Shoe	103.36	140.00
Apr.	5	Congram & Connor, Inkster, N. D.		
		3-22 Shoe	169.44	225.00
Jan.	3	Monson Bros., New London, Minn.		
		1-16 Shoe	48.30	59.00

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1902		Purchase Price.	Selling Price.
Jan. 7	Montevideo Imp. Co., Montevideo, Minn.		
	1-18 Seoe	52.50	67.00
Jan. 25	Madson Oxhorn & Pederson, Tyler, Minn.		
	7-14 Shoe	281.96	392.00
	2-16 Shoe	88.16	123.00
	1-18 Shoe	47.88	67.00
	2-20 Shoe	103.36	145.00
	1-22 Shoe	56.48	78.00
Feb. 3	Montevideo Imp. Co., Montevideo, Minn.		
	2-16 Shoe	88.16	120.00
	3-18 Shoe	143.64	201.00
	8-20 Shoe	413.44	576.00
	6-22 Shoe	338.88	468.00
Feb. 3	F. Voyek, Lidgerwood, N. D.		
	2-22 Shoe	112.96	151.00
Feb. 4	Langdon Imp. Co., Langdon, N. D.		
	2-18 Shoe	95.76	130.00
Feb. 4	Maddock Imp. Co., Maddock, N. D.		
	4-16 Shoe	176.32	240.00
	8-20 Shoe	413.44	560.00
	4-22 Shoe	225.92	300.00
Apr. 7	Chas. Johnson, Baldwin, N. D.		
	2-18 Shoe	95.76	134.00
Apr. 7	McEwan, Dougherty & Dailey, Conway, N. D.		
	2-18 Shoe	95.76	130.00
Apr. 8	McEwan, Dougherty & Dailey, Conway, N. D.		
	2-22 Shoe	112.96	150.00
Apr. 14	McDougall Bros., McVille, N. D.		
	2-18 Shoe	95.76	130.00
Apr. 14	G. L. Udstad, Devils Lake, N. D.		
	1-22 Shoe	56.48	75.00
Apr. 19	Maddock Imp. Co., Maddock, N. D.		
	1-20 Shoe	51.68	70.00
Apr. 23	Langdon Imp. Co., Langdon, N. D.		
	2-18 Shoe	95.76	130.00
	1-22 Shoe	56.48	76.00
Apr. 8	P. G. Bush, Watertown, S. D.		
	1-16 Shoe	44.08	60.00
Apr. 16	Geo. Campbell & Son, Walhalla, N. D.		
	2-16 Shoe	88.16	122.00
	1-18 Shoe	47.98	67.00
1903.			
Apr. 4	Baptie & Sing, Barnesville, Minn.		
	2-22 Shoe	112.96	150.00
Apr. 24	A. Brandt, St. Paul Park., Minn. care Dowagiac Mfg. Co.		
	1-16 Shoe	44.08	48.60

Shoe Drills included in the above statement purchased from the McSherry Mfg. Co., of Middletown, Ohio, but returned by purchasers to the Minnesota Moline Plow Company with the Purchase and Selling Price of the same.

1902.		Purchase Price.	Selling Price.
Oct. 4	Haight Lbr. & Machine Co., Mandan, N. D.		
	1-16 Shoe Drill	44.08	61.50
Oct. 4	Jno. Nelson, Rushford, Minn.		
	1-16 Shoe	44.08	59.00
Oct. 4	R. W. Zuel, Windom, Minn.		
	1-20 Shoe	59.40	76.00
	1-18 Shoe	55.00	70.00

1902			Purchase Price.	Selling Price.
Oct.	4	Larson & Miller, Courtenay, N. D.		
		2-16 Shoe	88.16	120.00
		2-20 Shoe	103.36	140.40
		2-22 Shoe	112.96	150.00
Oct.	4	Wirtz Bros., Churches Ferry, N. D.		
		4-22 Shoe	225.92	300.00
Oct.		Maddock Imp. Co., Maddock, N. D.		
		8-20 Shoe	413.44	560.00
		4-22 Shoe	225.92	300.00
		4-16 Shoe	176.32	240.00
Oct.	4	Wirtz Bros., York, N. D.		
		3-20 Shoe	155.04	210.00
		1-16 Shoe	44.08	60.00
Oct.	4	J. G. Campbell, Perth, N. D.		
		3-20 Shoe	155.04	210.00
		3-16 Shoe	132.24	180.00
		1-22 Shoe	56.48	75.00
Oct.	4	Forbes & Honeyford, Bisbee, N. D.		
		4-20 Shoe	206.72	280.00
		2-16 Shoe	88.16	120.00
Oct.	4	Jno. Munro, Rolla, N. D.		
		2-20 Shoe	103.36	140.00
		8-16 Shoe	352.64	480.00
		2-22 Shoe	112.96	150.00
Oct.	4	McEwan, Dougherty & Dailey, Conway, N. D.		
		2-20 Shoe	103.36	140.00
		1-22 Shoe	56.48	75.00
		2-18 Shoe	95.76	130.00
Oct.	7	Geo. Campbell & Son, Walhalla, N. D.		
		1-20 Shoe	51.68	71.00
Oct.	28	Wimbleton Machine Co., Wimbleton, N. D.		
		2-20 Shoe	103.36	140.00
Oct.	30	Klemmer & Bennett, Edmore, N. D.		
		2-16 Shoe	88.16	120.00
		3-20 Shoe	206.72	280.00
Oct.	30	Madson Oxholm & Pederson, Tyler, Minn.		
		7-14 Shoe	281.96	382.00
		2-16 Shoe	88.16	123.00
		2-20 Shoe	103.36	145.00
		1-22 Shoe	56.48	78.00
		1-18 Shoe	47.88	67.00
Dec.	19	E. M. Hanson, Stewart, Minn.		
		2-20 Shoe Drill	103.36	144.00
1903.				
Jan.	12	Sletten Bros., Willmar, Minn.		
		1-14 Shoe	40.28	55.00
Jan.	14	Sletten Bros., Willmar, Minn.		
		1-20 Shoe	51.68	70.00
Jan.	16	C. A. Johnson, Baldwin, N. D.		
		2-18 Shoe	95.76	134.00
1902.				
June	23	Wright & Stevens, Crary, N. D.		
		1-16 Shoe	44.08	60.00
		1-20-Shoe	51.68	70.00
Aug.	1	Tenneson O'Leary Co., Albee, S. D.		
		2-20 Shoe	103.36	140.00

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1903.			Purchase Price.	Selling Price.
Jan.	19	Arnold & Fritsche, New Ulm, Minn.		
		1-16 Shoe	44.08	60.00
		1-20 Shoe	51.68	70.00
Jan.	19	McEwan, Dougherty & Dailey Bros., Conway, N. D.		
		2-20 Shoe	103.36	140.00
		2-22 Shoe	112.96	150.00
June	29	McDougall Bros., McVille, N. D.		
		2-18 Shoe	95.76	130.00
		104	$5136.76	$6956.10

McSherry Shoe Drills returned direct to Middletown, Ohio.

1896.			
Oct.	24	1-10 Shoe McSherry Drill returned to Middletown, O.—	$37.00

1898.

July 12 25-22 Shoe McSherry Drill returned to Middletown, O.—
By M. R. O'Neil, Graceville, Minn.

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30 Endorsed: No. 3041. Dowagiac Manufacturing Company, Appellant, vs. Minnesota-Moline Plow Company, et al. No. 3042. Dowagiac Manufacturing Company, Appellant, vs. Ernest F. Smith, et al. Stipulation to amend record as to Complts. Ex. "Statement showing Shoe Drills" etc. and Printed Copy of said Exhibit. Filed Dec. 7, 1909, John D. Jordan, Clerk.

(Order of Submission.)

And on the eighth day of December, A. D. 1909, in the record of the proceedings of said Circuit Court of Appeals is an order of submission in cause No. 3041, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

December Term, 1909.

Wednesday, December 8, 1909.

Dowagiac Manufacturing Company, Appellant,
No. 3041. vs.
Minnesota-Moline Plow Company, et al.

Appeal from the Circuit Court of the United States for the District of Minnesota.

This cause having been called for hearing in its regular order, argument was commenced by Mr. Fred L. Chappell in behalf of the appellant, continued by Mr. Thomas A. Banning for the appellees and concluded by Mr. Fred L. Chappell for the appellant.

Thereupon the cause was submitted to the Court upon the transcript of record from said Circuit Court and the briefs of counsel filed herein.

(Opinion.)

And on the twenty-fourth day of October, A. D. 1910, the opinion of the United States Circuit Court of Appeals for the Eighth Circuit was filed in said causes Nos. 3041 and 3042, in the words and figures following, to-wit:

31 United States Circuit Court of Appeals, Eighth Circuit.

No. 3041.—September Term, A. D. 1910.

Dowagiac Manufacturing Company, Appellant,
vs.
Minnesota Moline Plow Company and Thomas H. Martin, Appellees.

Appeal from the Circuit Court of the United States for the District of Minnesota.

No. 3042.—September Term, A. D. 1910.

Dowagiac Manufacturing Company, Appellant,
vs.
Ernest F. Smith and Luppo Zimmer, Appellees.

Appeal from the Circuit Court of the United States for the District of Minnesota.

Mr. Fred L. Chappell for appellant.

Mr. Thomas A. Banning (Mr. Samuel W. Banning and Mr. Walker Banning were on the brief) for Minnesota Moline Plow Company, appellee.

Mr. Julius S. Starr for Ernest F. Smith and Luppo Zimmer, appellees.

Before Hook and Adams, Circuit Judges, and McPherson, District Judge.

Adams, Circuit Judge, delivered the opinion of the court.

These were suits in equity to enjoin the infringement of United States patent No. 446,230, granted to Will F. Hoyt, February 10, 1891, and for an accounting of damages and profits. The Circuit Court sustained the patent, awarded an injunction against infringement and referred the causes to a master to take the account. He reported for nominal damages only. The Circuit Court confirmed the report and entered final decrees accordingly. Complainant appeals.

32 The only question is whether the proof warranted a finding for substantial damages. The invention was for an improvement in grain drills of a well known preexisting type, the "shoe drill". Its object, as stated in the specification of the patent, was "to provide an independent spring-pressure for each of the shoes and covering-wheels of the drill, whereby the work of the drill is rendered efficient in uneven ground, and to provide means whereby said shoes and covering-wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another."

The patent assumes the existence of practically all the elements of well known grain drills then in existence except the means for exerting an effective pressure upon the shoes in order to elevate or depress them as occasion required. The claims provide for a certain spring metal pressure rod to ac-

complish this purpose. The interposition of this rod, in combination with old elements constituted the invention of the patent.

The principle and scope of the invention have been the subject of considerable judicial inquiry and the results may be briefly stated: In McSherry Mfg. Co. v. Dowagiac Mfg. Co., 101 Fed. 716, 721, it was said: "Grain drills were old. Shoes and press-wheels are elements found in other structures." * * * "That Hoyt's drill is a marked improvement over older structures is most clear." * * * "Hoyt was not a pioneer. But this invention is clearly a meritorious one." * * *

In Dowagiac Mfg. Co. v. Minnesota Moline Plow Co., 55 C. C. A. 86, 118 Fed. 136, 139, this court had the Hoyt patent under consideration and said of it: "The function of the device in the Hoyt patent was to control the depth of the cut of the shoe by a regular pressure easily exerted by means of a lever, and by the same means to regulate the shoe in uneven ground, and to raise the shoe from the ground when not in use. The principle of the combination was old. The result attained old." * * * "Hoyt, it is true, was not a pioneer." It was there said by Judge Thayer, in a dissenting opinion not differing in this respect from the majority, as follows: "Hoyt's patent, confessedly, does not cover a pioneer invention, but merely a new combination of old elements to accomplish a result which had previously been accomplished". * * * "When the Hoyt patent was issued, what are termed 'shoe drills' were in common use, and various means had been employed by the manufacturers of such drills for applying pressure to the shoes, and for elevating them when the operator desired to do so." See also Dowagiac Mfg. Co. v. Fowler, 58 C. C. A. 643, 121 Fed. 988.

In Dowagiac Mfg. Co. v. Brennan & Co., 62 C. C. A. 257, 127 Fed. 143, 145, the Circuit Court of Appeals for the Sixth Circuit, in considering this patent, said: "The objects which the inventor had in view were twofold, first, to provide means for depressing the shoes of the drill to meet the requirements of its movements when in operation upon differing and uneven surfaces, and, second, to provide means for lifting the
33 shoe and its attachments off the ground while the drill is being moved from place to place. There were in use devices for both these purposes, but they lacked the desired simplicity, convenience, and ease of management." * * * "Some, perhaps all, of these advantages had, in a way, been supplied by the former art; but they had not, so far as we can see, been so completely gathered together or attained in so simple and useful a way."

In view of these decisions it is unnecessary to enter upon any independent discussion of the scope of the patent. While its claims call for all the elements of a then well known grain drill, namely: transporting wheels, frame, hopper, shoe, draft-rods, clamping-plates, etc., the spring metal pressure rod used in combination with those elements, constitutes the pith of the invention. It rests in the improvement of a specific part of a well known structure.

Its character and scope have been thus briefly adverted to because they are important in determining the true measure of recovery for its infringement. The general rule in patent cases like all others is that a complainant is entitled to recover damages for the loss he has sustained by reason of the wrongful acts of the infringer and the burden is on him to show how much it is. This was laid down by Mr. Justice Field, speaking for the Supreme Court, in the case of Garretson v. Clark, 111 U. S. 120. He said: "When a patent is for an improvement, and not for an entirely new machine or contrivance, the patentee must show in what particulars his improvement has added to the usefulness of the machine or contrivance. He must separate its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated." And quoting from Mr. Justice Blatchford, who was the trial judge in the case, he added: "The patentee must in every case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative."

Authorities to the foregoing general effect are numerous and their citation would be useless.

Complainant offered proof tending to show the profits made by defendants in sales of the entire structure without making any apportionment of them to the patented feature, as distinguished from the balance of the drill. It claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purposes of an accounting, to be considered as appropriated by the patentee and if there is an infringement of the novel feature all the profits made by the infringer upon the whole combined structure are recover-

able and that proof of those made by reason of the novel feature alone is unnecessary. Reliance for this contention is
34 placed upon the cases of McSherry Mfg. Co. v. Dowagiac Mfg. Co., 89 C. C. A. 26, 160 Fed. 948, and Brennan & Co. v. Dowagiac Mfg. Co., 89 C. C. A. 392, 162 Fed. 472.

Without now analyzing these cases, it serves our present purpose to say, that if they support the contention of the complainant they seem out of harmony with the doctrine of the Supreme Court and our Court as disclosed in many cases and particularly the following: Garretson v. Clark, (supra); Tilghman v. Proctor, 125 U. S. 136; McCreary v. Pennsylvania Canal Co., 141 U. S. 459; Crosby Valve Co. v. Supply Valve Co., 141 U. S. 441,453; Sessions v. Romadka, 145 U. S. 29; Keystone Mfg. Co. v. Adams, 151 U. S. 139, 147; Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co., ...C. C. A....., 173 Fed. 361.

These cases have recently been considered by us in an opinion written by Van Devanter, Circuit Judge, in the case of Brown v. Lanyon Zinc Co.,....C. C. A....., 179 Fed. 309, where a conclusion was reached adverse to complainant's present contention.

These authorities make it clear, we think, that an apportionment of profits between the patented and unpatented parts of the drill was indispensably necessary. The invention did not inhere in the entire machine as an entity, but was only an improvement in a single element of an otherwise well known device.

It is next contended that the entire value of the machine as a marketable article was properly and legally attributable to the particular patented feature, that it was derived from the Hoyt invention exclusively and, therefore, within the rule laid down in the cases already cited and Westinghouse v. New York Air Brake Co., 72 C. C. A. 51, 140 Fed. 545, it was entitled to recover all the profits which the defendant made by the sale of the grain drills embodying the novel feature.

This depends upon the facts of the case, and they upon the evidence of the witnesses. The master who took the evidence heard the witnesses, observed their demeanor and formed his conclusion as a result of all those considerations which appropriately affect the mind of a trier of facts. His conclusion was reviewed on exceptions by the learned trial judge. Both of them found against the contention. There being no obvious error of law or serious mistake of fact, their findings will be accepted as true. Moline Plow Co. v. Carson, 18 C. C. A. 606, 72 Fed. 387; Brown v. Lanyon Zinc Co. (supra). In this

case not only is their conclusion presumptively correct but a careful examination of the proof convinces us that is actually so.

Complainant next argues that its grain drill was so peculiarly adapted for use in what was known as the Northwest Territory that it had superseded all other grains drills in that Territory and could and would have been supplied with reasonable promptness by the complainant if the defendants had not entered the field, and for that reason, within the rule laid down in Manufacturing Co. v. Cowing, 105 U. S. 253, it was
35 entitled to recover as damages all it would have made by selling its machine to all the persons who purchased from the defendants in that Territory. This contention also depended upon the proof. The master and the court below found against complainant on it and there is not only ample evidence to support their finding but, in our opinion, gathered from a careful review of the proof, they could not well have found otherwise.

One question remains for consideration. The costs of the accounting were large, and in view of the fact that complainant recovered only nominal damages the trial court ordered it to pay all costs attending the accounting, including the hearing on the exceptions to the master's report. We think this was right. Common practice in such cases seems to be to award the costs of the accounting against a complainant who without legal cause necessitated them. Kirby v. Armstrong, 5 Fed. 801; Ingersoll v. Musgrove, 14 Blatchf. 541, Fed. Cases No. 7040; Robbins v. Illinois Watch Co., 78 Fed. 124; Kansas City Hay Press Co. v. Devol, 127 Fed. 363.

While it is a rule of general application that the award of costs in equity rests in the sound discretion of the chancellor and is made according to the facts and circumstances of each particular case, we think the practice referred to should be a general guide. The decrees as rendered must be Affirmed.

Filed October 24, 1910.

36 (Decree.)

And on the twenty-fourth day of October, A. D. 1910, in the record of the proceedings of said Circuit Court of Appeals is a decree in cause No. 3041, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

September Term, 1910.

Monday, October 24, 1910.

Dowagiac Manufacturing Company, Appellant,
No. 3041. vs.
Minnesota Moline Plow Company, and Thomas H. Martin.

Appeal from the Circuit Court of the United States for the District of Minnesota.

This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Minnesota, and was argued by counsel.

On Consideration Whereof, it is now here ordered, adjudged and decreed by this Court, that the decree of the said Circuit Court, in this cause, be, and the same is hereby, affirmed with costs; and that the Minnesota-Moline Plow Company and Thomas H. Martin have and recover against the Dowagiac Manufacturing Company the sum of twenty dollars for their costs herein and have execution therefor.

October 24, 1910.

(Petition for Rehearing.)

And on the fourteenth day of November, A. D. 1910, a petition for a rehearing was filed in said causes Nos. 3041 and 3042, in the words and figures following, to-wit:

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1303

UNITED STATES CIRCUIT COURT OF APPEALS,
FOR THE EIGHTH CIRCUIT.

DOWAGIAC MANUFACTURING COMPANY,
Appellant,
vs.
MINNESOTA-MOLINE PLOW COMPANY and THOMAS H. MARTIN,
Appellees.

No. 3041
Appeal from the Circuit Court of the United States for the District of Minnesota.

DOWAGIAC MANUFACTURING COMPANY,
Appellant,
vs.
ERNEST F. SMITH and LUPPO ZIMMER,
Appellees.

No. 3042
Appeal from the Circuit Court of the United States for the District of Minnesota.

Petition for Rehearing on Behalf of the Complainant-Appellant, Dowagiac Manufacturing Company.

Now comes the above-named Complainant-Appellant, The Dowagiac Manufacturing Company, and respectfully petitions this Honorable Court to grant a rehearing in the above-entitled causes for the following reasons:

FIRST.

For the reason that the Court has apparently erred in taking into consideration the recitation of an element in the claim, rather than that the claim is to an entire combination.

The principle of law as to the apportionment of profits and damages, where the claim is to a true combination of

old elements, has been laid down by the Supreme Court of the United States in the case of

City of Elizabeth v. The Pavement Company, 97 U. S. 126, Bk. 24 Law. Ed. 1000,

which case was specifically followed and applied by the United States Circuit Court of Appeals for the Sixth Judicial Circuit in the case of

McSherry Manufacturing Company v. Dowagiac Manufacturing Company, 89 C. C. A., 26, 106 Fed. Rep. 948,

and

Brennan & Co. v. Dowagiac Manufaucturing Co., 89 C. C. A. 392, 162 Fed. Rep. 472,

in which last case the decision of the Court for the United States Circuit Court of Appeals for the Sixth Judicial Circuit definitely distinguished a patent like the patent here at bar from the patent involved in the case decided by the Supreme Court, entitled

Garretson v. Clark, 111 U. S. 120,

and pointed out the principle in said pavement case, and its applicability to the Hoyt patent here in suit.

SECOND.

For the reason that the Court apparently erred in holding, in referring to Complainant,—

> "It claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the other constituted an appropriation of all of them in combination."

Complainant presented the contention that it was entitled to the whole, but offered all proofs possible in the case whereby an apportionment might be had, offering proofs specifically to the only unpatented grain drill comparable in quality with that of Complainant,—viz., a hoe drill,—as a standard of comparison. This Court here apparently erred, if right in its ruling that apportionment is required between patented and unpatented features, the 40th assignment of error in the Minnesota-Moline Plow Case and the 39th assignment in the Smith & Zimmer case bearing particularly on this point.

THIRD.

For the reason that the Court apparently erred in holding that the Master had carefully considered the evidence showing that the Complainant's machine was adapted to a limited territory known as the "Northwest," and, therefore, on account of its particular features, the Complainant was entitled to the same consideration as Complainant in

Manufacturing Company v. Cowing, 105 U. S. 253,

whereas, the Examiner based his finding on the ground that there had been no proper apportionment by the Complainant, and, consequently, gave no consideration to the merits.

FOURTH.

For the reason that the Court apparently erred in awarding costs to the Defendant-Appellee. In this case, it has been held, when the accounting was awarded and the injunction granted in this case, that the Complainant was entitled to the patent protection. At an earlier stage of the case, on an application for preliminary injunction, on a finding that the patent was good and valid by the United States Circuit Court of Appeals for the Sixth Circuit, the court below held that, as the Defendant was responsible, it might proceed and appropriate the property of Complainant by merely giving a bond to respond in costs and damages, and that the Court would take care of any damage that was done to the Complainant on the proof at the final hearing on an accounting if the Complainant prevailed. The Complainant prevailed and offered such proof,—all proof that was obtainable in this behalf,—and it is submitted that it is very unjust not to award profits and damages, and particularly is it unjust and inequitable, under such circumstances, not to award the costs.

FIFTH.

For the reason that the Court has apparently erred in not applying the principle of law that general evidence shall be considered, and in failing to apply the principle of law as laid down in the case of

Suffolk v. Hayden, 3 Wall., 315, 18 L. Ed. 76,

McKeever v. The United States, 23 O. G. 1525, that, where a party has been wronged and all evidence possible has been adduced, as in this case, it is the duty of the court to make the best award possible, so that justice shall be done the wronged party, viz., the Complainant, whose property has been illegally appropriated by the Defendant. The wrong-doer should suffer, not the innocent owner of the patented property.

SIXTH.

For the reason that the Court, on account of the erroneous view that it has taken of the Complainant's case, has failed to consider the various and numerous assignments of error relied upon herein.

DOWAGIAC MANUFACTURING COMPANY,
By FRED L. CHAPPELL,
Its Solicitor.

Kalamazoo, Michigan,
November 7, 1910.

I hereby certify that I have examined and read the foregoing petition for rehearing, and that, in my opinion, such petition is well founded and should be granted by this Honorable Court, and that such petition has not been filed for delay.

FRED L. CHAPPELL,
Solicitor.

UNITED STATES CIRCUIT COURT OF APPEALS,
FOR THE EIGHTH CIRCUIT.

DOWAGIAC MANUFACTURING COMPANY,
Appellant,
vs.
MINNESOTA-MOLINE PLOW COMPANY and THOMAS H. MARTIN,
Appellees.

No. 3041

DOWAGIAC MANUFACTURING COMPANY,
Appellant,
vs.
ERNEST F. SMITH and LUPPO ZIMMER,
Appellees.

No. 3042.

MEMORANDUM ON BEHALF OF THE DOWAGIAC MANUFACTURING COMPANY ON PETITION TO REHEAR.

As to the first reason, it is urged on the attention of the Court that a claim to a combination is different from a claim to an element. A combination has always been considered to be an entirety. It is earnestly submitted that the Court has disregarded this principle of law and has chosen to consider that Complainant's Hoyt patent relates merely to a spring, whereas, it relates to a combination of which a spring is but one element or member.

Considering

Elizabeth v. The Pavement Company, 97 U. S. 126, Bk. 24 L. Ed., 1000,

each and every element of the patent there was old,—confessedly old,—and pointed out to be old by the Supreme Court of the United States, and the claim was held to be to a combination and an entirety, and the entire profits

were awarded to the Complainant. This is the case on which the United States Circuit Court of Appeals for the Sixth Circuit relied in the authorities insisted upon by the Complainant-Appellant.

The case at bar is clearly distinguished by the Court of Appeals for the Sixth Circuit in

Brennan v. Dowagiac, 89 C. C. A. 392, 162 Fed. Rep. 472,

from the case of

Garretson v. Clark, 111 U. S. 120,

and the other authorities referred to by this Court in its opinion.

As to the second reason for rehearing, while the Complainant insisted that there ought not to be apportionment between the patented and unpatented features, it specifically took evidence as to a hoe-drill,—the only unpatented drill that was comparable with the patented structure. It was stated that it was not proper to be considered for comparison, because there were no unpatented drills on sale in the territory. The Complainant adduced all the facts that it was possible for it to adduce. Had there been an unpatented shoe-drill on sale in the territory, and had not not all such drills been superseded and wiped out by the Dowagiac construction, it would have been proper in considering this branch of the case for Complainant to have offered evidence as to the unpatented shoe-drill. There was, however, no unpatented shoe-drill on sale in the territory, and the only unpatented drill that was at all comparable was the hoe-drill referred to.

As to the third ground for asking rehearing, it is submitted that the view which the Master took of the evidence, made it unnecessary for him to consider the other phases of the case, and that he never did really consider them as he should.

As to the fourth reason that the Court erred, it will be remembered by reference to the record that, when the Defendant appropriated Complainant's property, Complainant asked for a preliminary injunction. This was refused, and bond was required. The Court, therefore, took Complainant's property from it, assuring it that it would compensate it if it prevailed in the suit, and, also, that the Defendant should pay the costs. It is submitted, therefore, that a great injustice is done under such circumstances. The costs, at least, should be awarded.

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As to the fifth assignment, it has been repeatedly held by the Supreme Court that general testimony is proper to be considered, where specific proofs cannot be presented. The entire history of this subject, at great length, has been submitted to this Court. All the facts that make for or against the case are presented. It is not suggested by this Court, nor by the lower court, nor by either of the Masters that any further proofs are possible to be adduced, and, had they so suggested, a petition would have at once been made to ask leave to adduce such proofs, because it has been the purpose of the Complainant to present the case fully, so that the Court could have all the facts before it and could do justice between the parties, so that the innocent owner of this patent need not suffer because of the ownership of the patent from any false theory that might be adopted by its counsel. Where all the facts are submitted, it is but right that the Court should make a proper estimate of the loss and damage that has been suffered by the Complainant, and award the same against the wrong-doer, the Defendant.

As to the sixth assignment, it is submitted that, owing to the view taken by the Court, it has failed to consider the various propositions that have been presented by the Assignments of Error, and that the same have, consequently, not been considered at all, because the Court states that the Complainant insisted merely on the proposition which the Court has passed upon; whereas, a review of the briefs will show that the Complainant has insisted that general proofs should be considered, and has pointed out that, if it is deemed that the Complainant's theory as to apportionment is wrong, proofs have been submitted that would enable the Court to properly apportion and do justice between the parties.

All of which is respectfully submitted.

DOWAGIAC MANUFACTURING COMPANY,
By FRED L. CHAPPELL,
Counsel for Appellant.

Kalamazoo, Michigan,
November 7, 1910.

(Endorsed:) Filed Nov. 14, 1910, John D. Jordan, Clerk.

45 (Order denying Petition for Rehearing.)

And on the eighth day of December, A. D. 1910, in the record of the proceedings of said Circuit Court of Appeals is an order denying the petition for a rehearing in cause No. 3041, in the words and figures following, to-wit:

United States Circuit Coart of Appeals, Eighth Circuit.

December Term, 1910.

Thursday, December 8, 1910.

Dowagiac Manufacturing Company, Appellant,
No. 3041. vs.
Minnesota-Moline Plow Company, et al.

Appeal from the Circuit Court of the United States for the District of Minnesota.

This cause came on this day to be heard upon the petition for a rehearing, filed by Counsel for Appellant.

On Consideration Whereof, it is now here ordered by this Court, that said petition for a rehearing of this cause, be, and the same is hereby, denied.

December 8, 1910.

46 (Appearance of Counsel for Appellant.)

And on the twenty-ninth day of March, A. D. 1909, the appearance of counsel for appellant was filed in cause No. 3042, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

Dowagiac Manufacturing Company, Appellant,
No. 3042. vs.
Ernest F. Smith and Luppo Zimmer.

The Clerk will enter my appearance as Counsel for the Appellant.

FRED L. CHAPPELL.

Endorsed: U. S. Circuit Court of Appeals, Eighth Circuit. No. 3042. Dowagiac Manufacturing Company, Appellant, vs. Ernest F. Smith and Luppo Zimmer. Appearance. Filed Mar. 29, 1909. John D. Jordan, Clerk. Fred L. Chappel, Counsel for Appellant.

(Appearance of Counsel for Appellees.)

And on the thirtieth day of September, A. D. 1909, the appearance of counsel for appellees was filed in cause No. 3042, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

Dowagiac Manufacturing Company, Appellant,
No. 3042. vs.
Ernest F. Smith and Luppo Zimmer.

The Clerk will enter my appearance as Counsel for the Appellees.

JULIUS S. STARR,
Peoria, Ills.

47 Endorsed: U. S. Circuit Court of Appeals, Eighth Circuit. No. 3042. Dowagiac Manufacturing Company, Appellant, vs. Ernest F. Smith and Luppo Zimmer. Appearance. Filed Sep. 30, 1909, John D. Jordan, Clerk. James S. Starr, Counsel for Appellees.

(Stipulation to amend Record as to Complainant's Exhibit, "Statement showing Shoe Drills purchased from McSherry Mfg. Co. etc.")

And on the seventh day of December, A. D. 1909, a stipulation to amend the record as to Complainant's Exhibit, Statement showing Shoe Drills purchased from McSherry Mfg. Co., etc., was filed in said causes Nos. 3041 and 3042, which is omitted at this point for the reason that a copy of same appears at page 4 of this supplemental transcript.

(Order of Submission.)

And on the eighth day of December, A. D. 1909, in the record of the proceedings of said Circuit Court of Appeals is an order of submission in said cause No. 3042, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

December Term, 1909.

Wednesday, December 8, 1909.

Dowagiac Manufacturing Company, Appellant,
No. 3042. vs.
Ernest F. Smith and Luppo Zimmer.

Appeal from the Circuit Court of the United States for the District of Minnesota.

This cause having been called for hearing in its regular order, argument was commenced by Mr. Fred L. Chappell in behalf of the appellant, continued by Mr. Thomas A. Banning and Mr.

Julius S. Starr for the appellees and concluded by Mr. Fred L. Chappell for the appellant.

48 Thereupon this cause was submitted to the Court upon the transcript of record from said Circuit Court and the briefs of counsel filed herein.

(Opinion.)

And on the twenty-fourth day of October, A. D. 1910, the opinion of the United States Circuit Court of Appeals for the Eighth Circuit was filed in said causes Nos. 3041 and 3042, which is omitted at this point for the reason that the same appears in full at page 31 of this supplemental transcript.

(Decree.)

And on the twenty-fourth day of October, A. D. 1910, in the record of the proceedings of said Circuit Court of Appeals is a decree in cause No. 3042, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

September Term, 1910.

Monday, October 24, 1910.

Dowagiac Manufacturing Company, Appellant,
No. 3042. vs.
Ernest F. Smith and Luppo Zimmer.

Appeal from the Circuit Court of the United States for the District of Minnesota.

This cause came on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Minnesota, and was argued by counsel.

On Consideration Whereof, it is now here ordered, adjudged, and decreed by this Court, that the decree of the said Circuit Court, in this cause, be, and the same is hereby, affirmed with costs; and that Ernest F. Smith and Luppo Zimmer have and recover against the Dowagiac Manufacturing Company the sum of twenty dollars for their costs herein and have execution therefor.

October 24, 1910.

49 (Petition for Rehearing.)

And on the fourteenth day of November, A. D. 1910, a petition for rehearing was filed in said causes Nos. 3041 and 3042, which is omitted at this point for the reason that a copy of same appears at page 37 of this supplemental transcript.

(Order denying Petition for Rehearing.)

And on the eighth day of December, A. D. 1910, in the record of the proceedings of said Circuit Court of Appeals is an order denying the petition for a rehearing in cause No. 3042, in the words and figures following, to-wit:

United States Circuit Court of Appeals, Eighth Circuit.

December Term, 1910.

Thursday, December 8, 1910.

Dowagiac Manufacturing Company, Appellant,
No. 3042. vs.
Ernest F. Smith, et al.

Appeal from the Circuit Court of the United States for the District of Minnesota.

This cause came on this day to be heard upon the petition for a rehearing, filed by Counsel for Appellant.

On Consideration Whereof, it is now here ordered by this Court, that said petition for a rehearing of this cause, be, and the same is hereby, denied.

December 8, 1910.

50 (Clerk's Certificate.)

United States Circuit Court of Appeals, Eighth Circuit.

I, John D. Jordan, Clerk of the United States Circuit Court of Appeals for the Eighth Circuit, do hereby certify that the foregoing transcript contains full, true and complete copies of all the pleadings, record entries and proceedings, including the opinion of said United States Circuit Court of Appeals for the Eighth Circuit (except the transcript of the record from the Circuit Court of the United States for the District of Minnesota), in certain causes in said Court wherein the Dowagiac Manufacturing Company is Appellant and the Minnesota Moline Plow Company and Thomas H. Martin are Appellees, No. 3041, and wherein the Dowagiac Manufacturing Company is Appellant and Ernest F. Smith and Luppo Zimmer are Appellees, No. 3042, as full, true and complete as the originals of the same remain on file and of record in my office.

In Testimony Whereof, I hereunto subscribe my name and affix the seal of the United States Circuit Court of Appeals for the Eighth Circuit, at office in the City of St. Louis, Missouri, this twenty-fourth day of December, A. D. 1910.

(Seal)

JOHN D. JORDAN,
Clerk of the United States Circuit Court of Appeals for the Eighth Circuit.

United States Circuit Court of Appeals for the Eighth Circuit.

In Equity. No. 3041.

DOWAGIAC MANUFACTURING COMPANY, Complainant,
vs.
MINNESOTA MOLINE PLOW Co. et al., Defendants.

It is hereby stipulated that the transcript already filed, in the clerk's office of the Supreme Court of the United States, with the petition for the writ of certiorari, be taken as a return to said writ. Dated the 28th day of February, 1911.

FRED L. CHAPPELL,
Counsel for Dowagiac Manfg. Co.
THOMAS A. BANNING,
Counsel for Minnesota Moline Plow Co. et al

(Endorsed:) No. 3041. U. S. Circuit Court of Appeals, Eighth Circuit. Dowagiac Manfg. Co., vs. Minnesota Moline Plow Co., et al. Stipulation as to return to Writ of Certiorari. Filed Apr. 8, 1911. John D. Jordan, Clerk. Chappell & Earl, Attorneys and Counsellors, Suite 37-44 Chase Block, Kalamazoo, Michigan.

UNITED STATES OF AMERICA, ss:

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Honorable the Judges of the United States Circuit Court of Appeals for the Eighth Circuit, Greeting:

Being informed that there is now pending before you a suit in which Dowagiac Manufacturing Company is appellant and Minnesota Moline Plow Company and Thomas H. Martin are appellees, which suit was removed into the said Circuit Court of Appeals by virtue of an appeal from the Circuit Court of the United States for the District of Minnesota, and we, being willing for certain reasons that the said cause and the record and proceedings therein should be certified by the said Circuit Court of Appeals and removed into the Supreme Court of the United States, Do hereby command you that you send without delay to the said Supreme Court, as aforesaid, the record and proceedings in said cause, so that the said Supreme Court may act thereon as of right and according to law ought to be done.

Witness the Honorable Edward D. White, Chief Justice of the United States, the 28th day of February, in the year of our Lord one thousand nine hundred and eleven.

JAMES H. McKENNEY,
Clerk of the Supreme Court of the United States.

[Endorsed:] File No. 22,496. Supreme Court of the United Stat
No. 875, October Term, 1910. Dowagiac Manufacturing Co.
Minnesota Moline Plow Co. et al. Writ of Certiorari. Filed Apr.
1911. John D. Jordan, Clerk.

Return to Writ.

UNITED STATES OF AMERICA,
Eighth Circuit, ss:

In obedience to the command of the within writ of certiorari a
in pursuance of the stipulation of the parties, a full, true and co
plete copy of which is hereto attached, I hereby certify that the tr
script of record furnished with the application for a writ of certio
in the case of Dowagiac Manufacturing Company, Appellant,
Minnesota Moline Plow Company and Thomas H. Martin, No. 30
is a full, true and complete transcript with all the pleadings, proce
ings and record entries in said cause as mentioned in the certificat
thereto.

In Testimony Whereof, I hereunto subscribe my name and af
the seal of the United States Circuit Court of Appeals for the Eigh
Circuit, at office in the City of St. Louis, Missouri, this tenth day
April, A. D. 1911.

[Seal United States Circuit Court of Appeals, Eighth Circuit.]

JOHN D. JORDAN,
Clerk of the United States Circuit Court of
Appeals for the Eighth Circuit

[Endorsed:] File No. 22,496. Supreme Court U. S. Octob
Term, 1910. Term No. 875. Dowagiac Manufacturing Co. Pe
tioner, vs. Minnesota Moline Plow Co. et al. Writ of certiorari an
return. Filed April 12, 1911.

United States Circuit Court of Appeals for the Eighth Circuit.

In Equity. No. 3042.

DOWAGIAC MANUFACTURING COMPANY, Complainant,
vs.
SMITH & ZIMMER, Defendants.

It is hereby stipulated that the transcript already filed, in th
clerk's office of the Supreme Court of the United States, with th
petition for the writ of certiorari, be taken as a return to said wri
dated the 28th day of February, 1911.

FRED L. CHAPPELL,
Counsel for Dowagiac Manfg. Co.
THOMAS A. BANNING,
Counsel for Smith & Zimmer

(Endorsed:) No. 3042. U. S. Circuit Court of Appeals, Eighth Circuit. Dowagiac Mfg. Co., vs. Smith & Zimmer. Stipulation as to return to writ of certiorari. Filed Apr. 8, 1911, John D. Jordan, Clerk. Chappell & Earl, Attorneys and Counsellors, Suite 37-44 Chase Block, Kalamazoo, Michigan.

UNITED STATES OF AMERICA, *ss:*

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Honorable the Judges of the United States Circuit Court of Appeals for the Eighth Circuit Greeting:

Being informed that there is now pending before you a suit in which Dowagiac Manufacturing Company is appellant, and Ernest F. Smith and Luppo Zimmer are appellees, which suit was removed into the said Circuit Court of Appeals by virtue of an appeal from the Circuit Court of the United States for the District of Minnesota, and we, being willing for certain reasons that the said cause and the record and proceedings therein should be certified by the said Circuit Court of Appeals and removed into the Supreme Court of the United States, Do hereby command you that you send without delay to the said Supreme Court, as aforesaid, the record and proceedings in said cause, so that the said Supreme Court may act thereon as of right and according to law ought to be done.

Witness the Honorable Edward D. White, Chief Justice of the United States, the 28th day of February, in the year of our Lord one thousand nine hundred and eleven.

JAMES H. McKENNEY,
Clerk of the Supreme Court of the United States.

[Endorsed:] File No. 22,497. Supreme Court of the United States. No. 876, October Term, 1910. Dowagiac Manufacturing Co. vs. Ernest F. Smith and Luppo Zimmer. Writ of Certiorari. Filed Apr. 8, 1911. John D. Jordan, Clerk.

Return to Writ.

UNITED STATES OF AMERICA,
Eighth Circuit, ss:

In obedience to the command of the within writ of certiorari and in pursuance of the stipulation of the parties, a full, true and complete copy of which is hereto attached, I hereby certify that the transcript of record furnished with the application for a writ of certiorari in the case of Dowagiac Manufacturing Company, Appellant, vs. Ernest F. Smith and Luppo Zimmer, No. 3042, is a full, true and complete transcript with all the pleadings, proceedings and record entries in said cause as mentioned in the certificates thereto.

In Testimony Whereof, I hereunto subscribe my name and affix

the seal of the United States Circuit Court of Appeals for the Eigh
Circuit, at office in the City of St. Louis, Missouri, this tenth day
April, A. D. 1911.

[Seal United States Circuit Court of Appeals, Eighth Circuit.]

JOHN D. JORDAN,
Clerk of the United States Circuit Court of
Appeals for the Eighth Circuit.

[Endorsed:] File No. 22,497. Supreme Court U. S. Octob
Term, 1910. Term No. 876. Dowagiac Manufacturing Co., Pe
tioner, vs. Ernest Smith and Luppo Zimmer. Writ of certiorari a
return. Filed April 12, 1911.

Office Supreme Court U. S.
FILED
JAN 27 1911
Clerk.

Supreme Court of the United States

October Term, 1914

In Equity.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
MINNESOTA MOLINE PLOW CO., et al.,
Respondents.

No. 494

Petition for Writ of Certiorari

From the Supreme Court of United States, To the United States Circuit Court of Appeals for the Eighth Circuit.

FRED L. CHAPPELL,
Solicitor and of Counsel
for the Petitioner,
Dowagiac Manufacturing Co.

Business Address:
37-44 Chase Block,
Kalamazoo, Mich.

Kalamazoo Publishing Co., Printers.

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SUPREME COURT OF THE UNITED STATES.

October Term, 1910.

DOWAGIAC MANUFACTURING COMPANY,
Petitioner,
vs.
MINNESOTA MOLINE PLOW COMPANY, et al.,
Respondents.

Petition for Writ of Certiorari from the Supreme Court of the United States to the United States Circuit Court of Appeals for the Eighth Circuit.

To the Honorable, the Chief Justice and Associate Justices of the Supreme Court of the United States:

Your petitioner, Dowagiac Manufacturing Company, a Michigan corporation, respectfully represents:

I. That in the case at bar the United States Circuit Court of Appeals for the Eighth Judicial Circuit has specifically overruled the United States Circuit Court of Appeals for the Sixth Judicial Circuit, on the same patent, on substantially the same infringement, and on substantially the same record (many of the depositions being stipulated into the case from the case in the Sixth Cir-

cuit.) The ruling of the said Circuit Court of Appeals for the Sixth Judicial Circuit is in the following language:

> "Complainant offered proof tending to show the profits made by defendants in sales of the entire structure without making any apportionment of them to the patented feature, as distinguished from the balance of the drill. It claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purposes of an accounting, to be considered as appropriated by the patentee and if there is an infringment of the novel feature all the profits made by the infringer upon the whole combined structure are recoverable, and that proof of those made by reason of the novel feature alone is unnecessary. Reliance for this contention is placed upon the cases of McSherry Mfg. Co. vs. Dowagiac Mfg. Co., 89 C. C. A., 26, 160 Fed. 948, and Brennan Mfg. Co. vs. Dowagiac Mfg. Co., 89 C. C. A., 392, 162 Fed. 472.
>
> Without now analyzing these cases, it serves our present purpose to say, that if they support the contention of the Complainant they seem out of harmony with the doctrine of the Supreme Court and our Court as disclosed in many cases and particularly the following: Garretson vs. Clark (supra); Tilgh-

man vs. Procter, 125 U. S. 136; McCreary vs. Pennsylvania Canal Co., 141 U. S. 459; Crosby Valve Co. vs. Supply Valve Co., 141 U. S. 441, 453; Sessions vs. Romadka, 145 U. S. 29; Keystone Mfg. Co. vs. Adams, 151 U. S. 139, 147; Westinghouse Elec. & Mfg. Co. vs. Wagner Elec. & Mfg. Co., —— C. C. A. ——— 173 Fed. 361.

These cases have recently been considered by us in an opinion written by Van Devanter, Circuit Judge, in the case of Brown vs. Lanyon Zinc Co., —— C. C. A. ——, 179 Fed. 309, where a conclusion was reached adverse to Complainant's present contention.

These authorities make it clear, we think, that an apportionment of profits between the patented and unpatented parts of the drill was indispensably necessary. The invention did not inhere in the entire machine as an entity, but was only an improvement in a single element of an otherwise well known device."

There is thus absolutely adverse and contrary decisions by the said Courts of Appeals on the same state of facts and law.

II. That the rule of law relative to profits established by this Court is that:

Where the patented invention is for "a complete thing, consisting of a certain combination of elements," resulting in a new or improved machine or manufacture, and the Defendant in violation of Complainant's rights under the patent has sold machines or manufactures which embody in their construction such invention, "the whole of it." thereby having been guilty of selling the patented machine or manufacture; in such a case the Complainant is entitled to recover all the profits made by the Defendant in the manufacture and sale of

such infringing machines or manufactures. Elizabeth vs. Pavement Co., 97 U. S. 126, 141; Hurlbut vs. Schillinger, 130 U. S., 456, 472; Crosby Valve Company vs. Safety Valve Co., 141 U. S. 441, 453, 454.

III. That this Court has ruled that "since the Act of July 8, 1870, in cases where the injury sustained by the infringement is plainly greater than the aggregate of what was made by the Defendant, the Complainant is entitled to recover the damages he has sustained in addition to the profits received." **Coupe vs. Royer, 155 U. S., 582:**

> "There is a difference between the measure of recovery in equity and that applicable in an action at law. In equity, the Complainant is entitled to recover such gains and profits as have been made by the infringer from the unlawful use of the invention, and, since the Act of July 8, 1870, in cases where the injury sustained by the infringment is plainly greater than the aggregate of what was made by the Defendant, the Complainant is entitled to recover the **damages he has sustained,** in addition to the profits received. At law the Plaintiff is entitled to recover, as damages, compensation for the pecuniary loss he has suffered from the infringement, without regard to the question whether the Defendant has gained or lost by his unlawful acts—the measure of recovery in such cases being not what the Defendant has gained, but what Plaintiff has lost. As the case in hand is one at law, it is not necessary to pursue the subject of the extent of the equitable remedy; but reference may be had to Tilghman vs. Procter, 125 U. S., (31: 664), where the cases were

elaborately considered and the rule above stated was declared to be established."

IV. That it further appears as the established rule of law, from decisions of this Court, that, in the absence of proof establishing a specific royalty or an established license fee or the sale of the separated invention, general evidence must necessarily be resorted to, the rule of this Court being in the following language (Suffolk vs. Hayden, 3 Wall. 315-320, 18 Law. Ed. 76; 7 Brod. 405):

> "It is also urged that the value of the improvement was not a proper subject for the consideration of the jury in estimating the damages. This may be admitted. But looking at the term **value,** in the connection in which it was used, it is quite clear that it had reference only to the utility and advantages or value of the use of the improvement over the old mode of cleaning cotton; not the value of the patent itself.
>
> This question of damages, under the rule given in the statute, is always attended with difficulty and embarrassment both to the Court and jury. There being no established patent or license fee in the case, in order to get at a fair measure of damages, or even an approximation to it, **general evidence must necessarily be resorted to.** And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that has been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise

of a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner, by the piracy, instead of the purchase of the use of the invention.

It is proper to say, as was said in the Court below, that the jury, in ascertaining the damages upon this evidence, is not to estimate them for the whole term of the patent, but only for the period of the infringement. A recovery does not vest the infringer with the right to continue the use, as the consequences of it may be an injunction restraining the Defendant from the further use of it."

V. That it further appears as an established rule of law, approved by this Court, that where all of the proofs possible are before the Court, it becomes the duty of the Court in the exercise of a sound judgment to ascertain the damages so that justice may be done, the specific language approved by the Court being the following language of the Court of Claims, in McKeever vs. United States, 14 Brodix 414; 23 O. G. 1525, which was specifically approved by this, the Supreme Court on appeal:

"It is apparent here that the claimant has produced about all the evidence that the nature of his case admits of; and it is to be noted that the Defendants have produced no evidence whatever to controvert it. The claimant perhaps might have produced experts to estimate the value of the other inventor's original improvement, but the manufactured article has been before us, and it is manifest that the testimony of such witnesses would have been entirely conjectural, and would amount to nothing more than substi-

tuting their judgment, from an inspection of the article, for that of the Court.

"The rate of damages in patent cases may now be said to be generally (1) that the Plaintiff may recover in equity the profits which the infringer has made from the use of the invention, or (2) that he may recover at law the profits which he, the Plaintiff, has lost by reason of the Defendant's infringement; and that these profits lost, where it can properly be done, will be regarded as simply the fee which would have been charged if the infringer had produced a license. But in cases where the Plaintiff has evinced an intention to exercise an exclusive use of his invention, and in cases where the sales of licenses have been too few to establish a criterion of their actual or market value, courts have sought for other elements or evidences to determine the profits lost. In Suffolk vs. Hayden, 3 Wall. R. 15 (7 Am. & Eng. 405) Mr. Justice Nelson said:

"'The question of damages under the rule given in the statute is always attended with difficulty and embarrassment both to the Court and jury. There being no patent or license fee in the case, in order to get at a fair measure of damages or even an approximation to it, general evidence must necessarily be resorted to. And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of the material and controlling facts that may enable them, in the exercise of

a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner by the piracy instead of the purchase of the use of the invention.'"

VI. Your petitioner further shows that in the case at bar a fundamental error consists in assuming that the invention of the patent in suit is to a novel element and not to a true combination, the error of the Court appearing in the following language:

> "It (Complainant) claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purposes of an accounting, to be considered as appropriated by the patentee and if there is an infringement of the novel feature all the profits made by the infringer upon the whole combined structure are recoverable and that proof of those made by reason of the novel feature alone is unnecessary."

Whereas, a consideration of the patent and the prior art shows that there was not even a single element that was novel but the structure of the patent was a true and novel combination, as held in the following decisions by the judges named therein:

Dowagiac Mfg. Co. vs. McSherry Mfg.

Co., 101 Fed. Rep. 716, in the United States Circuit Court of Appeals for the Sixth Circuit, Judges Taft, Lurton and Day, affirming the decision of the United States Circuit Court for the Southern District of Ohio, Western Division, by Judge Clark.

Dowagiac Mfg. Co. vs. Minnesota Moline Plow Co., 118 Fed. Rep. 136, in the United States Circuit Court of Appeals for the Eighth Judicial Circuit, Judges Sanborn and Carland, with Thayer dissenting as to one infringement.

Dowagiac Mfg. Co. vs. Fowler-Banks, 121 Fed. Rep. 988, United States Circuit Court of Appeals for the Eighth Circuit, Judges Caldwell Sanborn and Thayer.

Dowagiac Mfg. Co. vs. Brennan & Co., 127 Fed. Rep. 143, in the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards.

which position was also considered and specifically applied by the United States Circuit Court of Appeals for the Sixth Circuit in McSherry vs. Dowagiac, 160 Fed. Rep. 948, and in Brennan vs. Dowagiac, 162 Fed. Rep. 472, these being the cases specifically overruled in the case at bar.

VII. That heretofore, to-wit, on or about **February,** 1898, your petitioner filed its Bill of Complaint in the District of Minnesota, Fourth Division, alleging infringement of the Hoyt patent No. 446,230 of February 10, 1891, being the patent in suit.

That thereafter answer and replication were

filed and proofs taken which were submitted to the Court, and thereafer Judge Lochren in an opinion passed upon the matter and held, following the decisions of the United States Circuit Court of Appeals for the Sixth Circuit, as reported in Dowagiac vs. McSherry, 101 Fed. Rep. 716, that claims 1, 2 and 3 of the patent were infringed by one of Defendant's structures and not infringed by the Defendant's new structure.

That thereupon both parties appealed to the United States Circuit Court of Appeals for the Eighth Judicial Circuit, and that upon a hearing upon said appeal, the finding of the Court below was modified so that both structures were held to infringe, the opinion of the Court of Appeals being by Judge Carland, there being a dissenting opinion by Judge Thayer as to one infringement, the said decision accepting and following as authority the opinion of the United States Circuit Court of Appeals for the Sixth Circuit in the said McSherry case.

That this matter was then referred to Mr. George F. Hitchcock, Jr., as special master, to take an accounting of the profits and damages and that said special master held that the Complainant had failed to apportion between the patented and unpatented features, and awarded nominal damages in the sum of One Dollar, the master in making such finding saying,

> "I am aware that a different conclusion has been reached in the accounting in the McSherry case in the Sixth Circuit, but the evidence presented to the Master there is not before us, and we do not know what it is. Certainly it must have been widely different from the evidence in this case * * *"

whereas, the evidence was largely the same, and

although the report of the Master in the McSherry case had been affirmed by his Honor, Judge Clark, the same was overruled by this special master.

That thereafter exceptions were filed to the report of Master Hitchcock, as appears at page 67 of the record, where, on final hearing by the Court, Judge Amidon of South Dakota, presiding, he having been specially assigned, overruled the exceptions, thus ruling contrary to the decision of Judge Clark in the McSherry case.

That from the decision and decree of Judge Amidon, after he had overruled a petition for rehearing, an appeal was taken to the United States Circuit Court of Appeals for the Eighth Judicial Circuit, where there were elaborate and complete assignments of error, and that on full hearing the decision of Judge Amidon was affirmed, the Court of Appeals for the Eighth Circuit, consisting of Judges Hook, Adams and McPherson, specifically overruling the United States Circuit Court of Appeals for the Sixth Circuit in

Brennan & Co. vs. Dowagiac Mfg. Co., 162 Fed. 473,

McSherry Mfg. Co. vs. Dowagiac Mfg. Co., 160 Fed. 948,

affirming the ruling of Judge Amidon. This ruling was adhered to on a petition for rehearing.

VIII. That this ruling was fundamentally erroneous in that it takes into consideration an element of a combination where a claim is to a combination of elements, and requires an apportionment of both profits and damages between the patented and the unpatented features, where the particular structure produced, as had been repeatedly previously ruled, is to an entirety and a true combination of elements, like a new chemical compound.

IX. That the showing made to the Court in this case at bar is as complete as it is possible to

make in a patent case, the record being very voluminous and developing fully all the facts, showing completely the whole situation as to the marketing of Complainant's grain drills, comparing the same with the only unpatented grain drill that was on the market, showing the facts fully by stipulation as to the Defendant's grain drills, and including a large number of depositions of people familiar with the market, showing conclusively that the Hoyt grain drill had solved effectively the seeding problem for a limited territory, where special conditions obtain in the growing of spring wheat, and showing conclusively, when the structure is considered as a true combination, that the success of the device was due to such combination, and showing that the Dowagiac shoe grain drill made under the patent in suit was the first to effectively solve the problem,—all of which proofs should certainly have been considered by the Court so that justice could be done.

Therefore your petitioner believes that the aforesaid opinion of the United States Circuit Court of Appeals for the Eighth Circuit affirimng the decree of the United States Circuit Court for the District of Minnesota, Fourth Division, thus depriving your petitioner of a substantial recovery on account of the profits made by the respondent in the sale of its infringing grain drills accounted for before the Master, is erroneous and in conflict with the decisions of this Court in analagous cases, as well as in conflict with decisions of the United States Circuit Court of Appeals for the Sixth Circuit and other Circuits; and has resulted in depriving your petitioner of property rights granted to it by the Statutes of the United States, and in acordance with the provisions of the Constitution of the United States; and that the patent laws, as construed in the case at bar by the opinion of the United States Circiut Court of Appeals for the

Eighth Circuit, contrary to the opinions of this Court rendered by Chief Justice Marshall in the case of Grant vs. Raymond, 6 Peters 242, have not been construed so as "to execute the contract" (the patent) "fairly on the part of the United States."

Your petitioner also respectfully submits, for the reasons stated in this petition for certiorari and more fully amplified in its brief in support of the same, that the opinion of the Court of Appeals for the Eighth Circuit in the case at bar, in a matter of gravity, where a large amount is involved, establishes a precedent which must necessarily affect almost incalculable values in the way of property rights under letters patent for inventions.

Wherefore, your petitioner respectfully prays: That a writ of certiorari may be issued out of and under the seal of this Court, directed to the United States Circuit Court of Appeals for the Eighth Circuit, commanding the said Court to certify and send to this Court, on a certain day to be therein designated, a full and complete transcript of the record of all proceedings of the said Court of Appeals in the said case therein, entitled Dowagiac Manufacturing Co., Appellant, v. Minnesota Moline Plow Company, et al., Appellees, in Equity No. 3041, to the end that the said case may be reviewed and determined by this Court as provided in Section 6 of the Act of Congress entitled, "An Act to establish Circuit Courts of Appeal and define and regulate in certain cases the jurisdiction of the Courts of the United States, and for other purposes, approved March 3, 1901," and that your petitioner may have such other or further relief or remedy in the premises as to this Court may seem

appropriate and in conformity with the said act.

And your petitioner will ever pray.

Fred L. Chappell

Solicitor and of Counsel for Petitioner,
the Dowagiac Manufacturing Co.

Of Counsel.

I hereby certify that I am solicitor and of counsel for the Petitioner herein, Dowagiac Manufacturing Company; that in accordance with the request of said Petitioner the foregoing petition has been prepared; that the allegations contained in said petition are true, to the best of my knowledge and belief; and that said petition is, in my opinion, well founded in law as well as in fact.

Fred L. Chappell

FILED.
JAN 27 1911
JAMES H. McKENNEY,
CLERK.

Supreme Court of the United States

October Term, 191[illegible]

In Equity.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.

~~196~~ ~~218. 22~~ 7

Petition for Writ of Certiorari

From the Supreme Court of United States, To the United States Circuit Court of Appeals for the Eighth Circuit.

FRED L. CHAPPELL,
Solicitor and of Counsel
for the Petitioner,
Dowagiac Manufacturing Co.

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Kalamazoo, Mich.

Kalamazoo Publishing Co., Printers.

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SUPREME COURT OF THE UNITED STATES.

October Term, 1910.

DOWAGIAC MANUFACTURING COMPANY,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.

Petition for Writ of Certiorari from the Supreme Court of the United States to the United States Circuit Court of Appeals for the Eighth Circuit.

To the Honorable, the Chief Justice and Associate Justices of the Supreme Court of the United States:

Your petitioner, Dowagiac Manufacturing Company, a Michigan corporation, respectfully represents:

I. That in the case at bar the United States Circuit Court of Appeals for the Eighth Judicial Circuit has specifically overruled the United States Circuit Court of Appeals for the Sixth Judicial Circuit, on the same patent, on substantially the same infringement, and on substantially the same record (many of the depositions being stipulated into the case from the case in the Sixth Cir-

cuit.) The ruling of the said Circuit Court of Appeals for the Sixth Judicial Circuit is in the following language:

> "Complainant offered proof tending to show the profits made by defendants in sales of the entire structure without making any apportionment of them to the patented feature, as distinguished from the balance of the drill. It claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purposes of an accounting, to be considered as appropriated by the patentee and if there is an infringment of the novel feature all the profits made by the infringer upon the whole combined structure are recoverable, and that proof of those made by reason of the novel feature alone is unnecessary. Reliance for this contention is placed upon the cases of McSherry Mfg. Co. vs. Dowagiac Mfg. Co., 89 C. C. A., 26, 160 Fed. 948, and Brennan Mfg. Co. vs. Dowagiac Mfg. Co., 89 C. C. A., 392, 162 Fed. 472.
>
> **Without now analyzing these cases, it serves our present purpose to say, that if they support the contention of the Complainant they seem out of harmony with the doctrine of the Supreme Court and our Court as disclosed in many cases and particularly the following:** Garretson vs. Clark (supra); Tilgh-

man vs. Procter, 125 U. S. 136; McCreary vs. Pennsylvania Canal Co., 141 U. S. 459; Crosby Valve Co. vs. Supply Valve Co., 141 U. S. 441, 453; Sessions vs. Romadka, 145 U. S. 29; Keystone Mfg. Co. vs. Adams, 151 U. S. 139, 147; Westinghouse Elec. & Mfg. Co. vs. Wagner Elec. & Mfg. Co., —— C. C. A. ——— 173 Fed. 361.

These cases have recently been considered by us in an opinion written by Van Devanter, Circuit Judge, in the case of Brown vs. Lanyon Zinc Co., —— C. C. A. ——, 179 Fed. 309, where a conclusion was reached adverse to Complainant's present contention.

These authorities make it clear, we think, that an apportionment of profits between the patented and unpatented parts of the drill was indispensably necessary. The invention did not inhere in the entire machine as an entity, but was only an improvement in a single element of an otherwise well known device."

There is thus absolutely adverse and contrary decisions by the said Courts of Appeals on the same state of facts and law.

II. That the rule of law relative to profits established by this Court is that:

Where the patented invention is for "a complete thing, consisting of a certain combination of elements," resulting in a new or improved machine or manufacture, and the Defendant in violation of Complainant's rights under the patent has sold machines or manufactures which embody in their construction such invention, "the whole of it." thereby having been guilty of selling the patented machine or manufacture; in such a case the Complainant is entitled to recover all the profits made by the Defendant in the manufacture and sale of

such infringing machines or manufactures. Elizabeth vs. Pavement Co., 97 U. S. 126, 141; Hurlbut vs. Schillinger, 130 U. S., 456, 472; Crosby Valve Company vs. Safety Valve Co., 141 U. S. 441, 453, 454.

III. That this Court has ruled that "since the Act of July 8, 1870, in cases where the injury sustained by the infringement is plainly greater than the aggregate of what was made by the Defendant, the Complainant is entitled to recover the damages he has sustained in addition to the profits received." **Coupe vs. Royer, 155 U. S., 582:**

> "There is a difference between the measure of recovery in equity and that applicable in an action at law. In equity, the Complainant is entitled to recover such gains and profits as have been made by the infringer from the unlawful use of the invention, and, since the Act of July 8, 1870, in cases where the injury sustained by the infringment is plainly greater than the aggregate of what was made by the Defendant, the Complainant is entitled to recover the **damages he has sustained,** in addition to the profits received. At law the Plaintiff is entitled to recover, as damages, compensation for the pecuniary loss he has suffered from the infringement, without regard to the question whether the Defendant has gained or lost by his unlawful acts—the measure of recovery in such cases being not what the Defendant has gained, but what Plaintiff has lost. As the case in hand is one at law, it is not necessary to pursue the subject of the extent of the equitable remedy; but reference may be had to Tilghman vs. Procter, 125 U. S., (31: 664), where the cases were

elaborately considered and the rule above stated was declared to be established."

IV. That it further appears as the established rule of law, from decisions of this Court, that, in the absence of proof establishing a specific royalty or an established license fee or the sale of the separated invention, general evidence must necessarily be resorted to, the rule of this Court being in the following language (Suffolk vs. Hayden, 3 Wall. 315-320, 18 Law. Ed. 76; 7 Brod. 405):

> "It is also urged that the value of the improvement was not a proper subject for the consideration of the jury in estimating the damages. This may be admitted. But looking at the term **value,** in the connection in which it was used, it is quite clear that it had reference only to the utility and advantages or value of the use of the improvement over the old mode of cleaning cotton; not the value of the patent itself.
>
> This question of damages, under the rule given in the statute, is always attended with difficulty and embarrassment both to the Court and jury. There being no established patent or license fee in the case, in order to get at a fair measure of damages, or even an approximation to it, **general evidence** must **necessarily be resorted to.** And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that has been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise

of a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner, by the piracy, instead of the purchase of the use of the invention.

It is proper to say, as was said in the Court below, that the jury, in ascertaining the damages upon this evidence, is not to estimate them for the whole term of the patent, but only for the period of the infringement. A recovery does not vest the infringer with the right to continue the use, as the consequences of it may be an injunction restraining the Defendant from the further use of it."

V. That it further appears as an established rule of law, approved by this Court, that where all of the proofs possible are before the Court, it becomes the duty of the Court in the exercise of a sound judgment to ascertain the damages so that justice may be done, the specific language approved by the Court being the following language of the Court of Claims, in McKeever vs. United States, 14 Brodix 414; 23 O. G. 1525, which was specifically approved by this, the Supreme Court on appeal:

"It is apparent here that the claimant has produced about all the evidence that the nature of his case admits of; and it is to be noted that the Defendants have produced no evidence whatever to controvert it. The claimant perhaps might have produced experts to estimate the value of the other inventor's original improvement, but the manufactured article has been before us, and it is manifest that the testimony of such witnesses would have been entirely conjectural, and would amount to nothing more than substi-

tuting their judgment, from an inspection of the article, for that of the Court.

"The rate of damages in patent cases may now be said to be generally (1) that the Plaintiff may recover in equity the profits which the infringer has made from the use of the invention, or (2) that he may recover at law the profits which he, the Plaintiff, has lost by reason of the Defendant's infringement; and that these profits lost, where it can properly be done, will be regarded as simply the fee which would have been charged if the infringer had produced a license. But in cases where the Plaintiff has evinced an intention to exercise an exclusive use of his invention, and in cases where the sales of licenses have been too few to establish a criterion of their actual or market value, courts have sought for other elements or evidences to determine the profits lost. In Suffolk vs. Hayden, 3 Wall. R. 15 (7 Am. & Eng. 405) Mr. Justice Nelson said:

" 'The question of damages under the rule given in the statute is always attended with difficulty and embarrassment both to the Court and jury. There being no patent or license fee in the case, in order to get at a fair measure of damages or even an approximation to it, general evidence must necessarily be resorted to. And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of the material and controlling facts that may enable them, in the exercise of

a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner by the piracy instead of the purchase of the use of the invention.'"

VI. Your petitioner further shows that in the case at bar a fundamental error consists in assuming that the invention of the patent in suit is to a novel element and not to a true combination, the error of the Court appearing in the following language:

> "It (Complainant) claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purposes of an accounting, to be considered as appropriated by the patentee and if there is an infringement of the novel feature all the profits made by the infringer upon the whole combined structure are recoverable and that proof of those made by reason of the novel feature alone is unnecessary."

Whereas, a consideration of the patent and the prior art shows that there was not even a single element that was novel but the structure of the patent was a true and novel combination, as held in the following decisions by the judges named therein:

Dowagiac Mfg. Co. vs. McSherry Mfg.

Co., 101 Fed. Rep. 716, in the United States Circuit Court of Appeals for the Sixth Circuit, Judges Taft, Lurton and Day, affirming the decision of the United States Circuit Court for the Southern District of Ohio, Western Division, by Judge Clark.

Dowagiac Mfg. Co. vs. Minnesota Moline Plow Co., 118 Fed. Rep. 136, in the United States Circuit Court of Appeals for the Eighth Judicial Circuit, Judges Sanborn and Carland, with Thayer dissenting as to one infringement.

Dowagiac Mfg. Co. vs. Fowler-Banks, 121 Fed. Rep. 988, United States Circuit Court of Appeals for the Eighth Circuit, Judges Caldwell Sanborn and Thayer.

Dowagiac Mfg. Co. vs. Brennan & Co., 127 Fed. Rep. 143, in the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards.

which position was also considered and specifically applied by the United States Circuit Court of Appeals for the Sixth Circuit in McSherry vs. Dowagiac, 160 Fed. Rep. 948, and in Brennan vs. Dowagiac, 162 Fed. Rep. 472, these being the cases specifically overruled in the case at bar.

VII. That heretofore, to-wit, on or about October, 1899, your petitioner filed its Bill of Complaint in the District of Minnesota, Fourth Division, alleging infringement of the Hoyt patent No. 466,230, of February 10, 1891, being the patent in suit.

That thereafter answer and replication were

filed and proofs taken which were submitted to the Court, and thereafter Judge Lochren in an opinion passed upon the matter and held, following the decisions of the United States Circuit Court of Appeals for the Sixth Circuit, as reported in Dowagiac vs. McSherry, 101 Fed. Rep. 716, that claims 1, 2 and 3 of the patent were infringed by one of Defendant's structures and not infringed by the Defendant's new structure.

That thereupon the matter was referred to Mr. Sampson R. Childs as special master, to take an accounting of the profits and damages and that said special master held that the Complainant had failed to apportion between the patented and unpatented features, and awarded nominal damages in the sum of One Dollar, the master in making such finding saying:

> "Complainant calls my attention to the fact that Judge Clark, in the case of this Complainant against McSherry Manufacturing Company, involving this Hoyt patent, sustained the report of the special master awarding entire damages, founded upon the claim that the Hoyt patent gave the entire market value to the machine, wherein Judge Clark, in his opinion says: 'I think the entire market value of the machine is due to the Plaintiff's improvement or addition to any previously existing and previously used machine.' I confess that the master's report in that case, and the above statement led me to spend much more time upon this case endeavoring to find evidence to support their conclusion, than I otherwise would have done. I have, however, concluded that the evidence in the McSherry case, must have differed materially from the evidence in this case, else the conclusion in that case could not have been reached. Whether that be so or not, I could not bring

my mind to any such conclusion. * * *"

whereas, the evidence was largely the same, and although the report of the Master in the McSherry case had been affirmed by his Honor Judge Clark, the same was overruled by this special master.

That thereafter exceptions were filed to the report of Master Childs, as appears at page 77 of the record, where, on final hearing by the Court, Judge Amidon of South Dakota presiding, he having been specially assigned, overruled the exceptions, thus ruling contrary to the decision of Judge Clark in the McSherry case.

That from the decision and decree of Judge Amidon, after he had overruled a petition for rehearing, an appeal was taken to the United States Circuit Court of Appeals for the Eighth Judicial Circuit, where there were elaborate and complete assignments of error, and that on full hearing the decision of Judge Amidon was affirmed, the Court of Appeals for the Eighth Circuit, consisting of Judges Hook, Adams and McPherson, specifically overruling the United States Circuit Court of Appeals for the Sixth Circuit in

Brennan & Co. vs. Dowagiac Mfg. Co., 162 Fed. 473,

McSherry Mfg. Co. vs. Dowagiac Mfg. Co., 160 Fed. 948,

affirming the ruling of Judge Amidon. This ruling was adhered to on a petition for rehearing.

VIII. That this ruling was fundamentally erroneous in that it takes into consideration an element of a combination where a claim is to a combination of elements, and requires an apportionment of both profits and damages between the patented and the unpatented features, where the particular structure produced, as had been repeatedly previously ruled, is to an entirety and a true com-

bination of elements, like a new chemical compound.

IX. That the showing made to the Court in this case at bar is as complete as it is possible to make in a patent case, the record being very voluminous and developing fully all the facts, showing completely the whole situation as to the marketing of Complainant's grain drills, comparing the same with the only unpatented grain drill that was on the market, showing the facts fully by stipulation as to the Defendant's grain drills, and including a large number of depositions of people familiar with the market, showing conclusively that the Hoyt grain drill had solved effectively the seeding problem for a limited territory, where special conditions obtain in the growing of spring wheat, and showing conclusively, when the structure is considered as a true combination, that the success of the device was due to such combination, and showing that the Dowagiac shoe grain drill made under the patent in suit was the first to effectively solve the problem,—all of which proofs should certainly have been considered by the Court so that justice could be done.

Therefore your petitioner believes that the aforesaid opinion of the United States Circuit Court of Appeals for the Eighth Circuit affirimng the decree of the United States Circuit Court for the District of Minnesota, Fourth Division, thus depriving your petitioner of a substantial recovery on account of the profits made by the respondent in the sale of its infringing grain drills accounted for before the Master, is erroneous and in conflict with the decisions of this Court in analagous cases, as well as in conflict with decisions of the United States Circuit Court of Appeals for the Sixth Circuit and other Circuits; and has resulted in depriving your petitioner of property rights granted to it by the Statutes of the United States, and in acord-

ance with the provisions of the Constitution of the United States; and that the patent laws, as construed in the case at bar by the opinion of the United States Circiut Court of Appeals for the Eighth Circuit, contrary to the opinions of this Court rendered by Chief Justice Marshall in the case of Grant vs. Raymond, 6 Peters 242, have not been construed so as "to execute the contract" (the patent) "fairly on the part of the United States."

Your petitioner also respectfully submits, for the reasons stated in this petition for certiorari and more fully amplified in its brief in support of the same, that the opinion of the Court of Appeals for the Eighth Circuit in the case at bar, in a matter of gravity, where a large amount is involved, establishes a precedent which must necessarily affect almost incalculable values in the way of property rights under letters patent for inventions.

Wherefore, your petitioner respectfully prays: That a writ of certiorari may be issued out of and under the seal of this Court, directed to the United States Circuit Court of Appeals for the Eighth Circuit, commanding the said Court to certify and send to this Court, on a certain day to be therein designated, a full and complete transcript of the record of all proceedings of the said Court of Appeals in the said case therein, entitled Dowagiac Manufacturing Company, Appellant, vs. Smith & Zimmer, Appellees, in Equity No. 3042, to the end that the said case may be reviewed and determined by this Court as provided in Section 6 of the Act of Congress entitled "An Act to establish Circuit Courts of Appeal and define and regulate in certain cases the jurisdiction of the Courts of the United States, and for other purposes, approved March 3, 1901," and that your petitioner may have such other or further relief or remedy in the premises

as to this Court may seem appropriate and in conformity with the said Act.

And your petitioner will ever pray.

Solicitor and of Counsel for Petitioner,
the Dowagiac Manufacturing Co.

Of Counsel.

I hereby certify that I am solicitor and of counsel for the Petitioner herein, Dowagiac Manufacturing Company; that in accordance with the request of said Petitioner the foregoing petition has been prepared; that the allegations contained in said petition are true, to the best of my knowledge and belief; and that said petition is, in my opinion, well founded in law as well as in fact.

FILED
JAN 27 1911
Clerk.

Supreme Court of the United States

October Term, 191[illegible]

In Equity.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
MINNESOTA MOLINE PLOW CO., et al.,
Respondents.

No. [illegible]

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.

No. [illegible]

BRIEF ON BEHALF OF DOWAGIAC MANUFACTURING COMPANY ON ITS PETITIONS FOR WRIT OF CERTIORARI.

FRED L. CHAPPELL,
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SUPREME COURT OF THE UNITED STATES,

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DOWAGIAC MANUFACTURING CO.,
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Respondents.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.

Brief on Behalf of Dowagiac Manufacturing Company, on its Petitions for Writ of Certiorari.

The above entitled causes were heard together by the United States Circuit Court of Appeals for the Eighth Judicial Circuit on the same record, and they will be treated here as a single case, although separate petitions for writs of certiorari have been filed.

Statement of the Case.

This is a suit involving a patent accounting, there having been an interlocutory decree awarding an injunction and an accounting of profits and damages, on a patent to Will F. Hoyt, for a shoe grain drill. The United States Circuit Court of Appeals for the Sixth Judicial Circuit had awarded substantial damages in an exactly similar case, being the entire profits made by Defendant. In this case at bar, on one of the same infringements and on substantially the same record, there has been a finding exactly to the contrary and adverse to the interests of the petitioner, the Dowagiac Manufacturing Company.

In these cases it will thus be noted from the petition that the United States Circuit Court of Appeals for the Eighth Judicial Circuit has specifically overruled the decisions of the United States Circuit Court of Appeals for the Sixth Judicial Circuit in two cases. This is done on the same patent, on one of the same infringements, and on substantially the same record, the only difference in the records between the cases in the Sixth and the Eighth Circuits being that the record is larger in the Eighth Circuit because of cumulative depositions of dealers handling the particular Defendants' device. Other matter was stipulated from the earlier cases.

This Petition Should Be Granted to Secure Uniformity of Decision.

It is very clear therefore that in the interests of uniformity of decision this Court should issue its writ of certiorari, so as to settle the law in view of the fact that the later decision overrules the earlier.

Forsyth vs. City of Hammond, 166 U. S. 504:

"2. This Court will sparingly exercise

the power to require a case to be certified to it by the Circuit Court of Appeals, and will exercise it only when the circumstances of the case show that the importance of the question **involved, the necessity of avoiding conflict between two or more Courts of Appeal, or between Courts of Appeal and the Courts of a state,** or some matter affecting the interest of the nation in its internal orexternal relations, demands such exercise."

Ex Parte Woods, 143, U. S. 202:

"But in the interest of jurisprudence and **uniformity of decision,** to use the language of the eminent jurist and statesman who had charge of the bill, provision was made under Section six for such supervision on our part as would tend to avert diversity of judgments and guard against inadvertence of conclusion in controversies involving weighty and serious matters."

American Construction Co. vs. Jacksonville T. & K. W. R. Co., 148 U. S. 372:

"In the same spirit, the authority conferred on this Court by the very provision on which the petitioners mainly rely, by which it is enacted that 'in any such case as is hereinbefore made final in the Circuit Court of Appeals, it shall be competent for the Supreme Court to require, by certiorari or otherwise, any determination, with the same power and authority in the case as if it had been carried by appeal or writ of error to the Supreme Court' has been held to be a branch of its jurisdiction which should be exercised sparingly and with great caution, and only in cases of peculiar gravity and general importance, or in order to secure **uniformity of decision.** Re Law Ow Bew, 141 U. S. 583 (35: 868) and 144 U. S. 47 (36:340). Re Woods, 143 U. S. 202

(36:125). Accordingly, while there have been made applications to this Court for writs of certiorari to the Circuit Courts of Appeal under this provision, two only have been granted; the one in Law Ow Bew's case above cited, which involved a grave question of public international law, affecting the relations between the United States and a foreign country; the other in Fabre, Petitioner, No. 1237 of the present term, an admiralty case, which presented an important question as to the rules of navigation, and in which the decree of the Circuit Court of Appeals for the Second Circuit reversed a decree of the District Judge, and was dissented from by one of the three Circuit Judges; and in each of those cases the Circuit Court of Appeals had declined to certify the question to this Court."

"In the first place, the Circuit Court of Appeals is authorized, 'in every such subject within its Appellate jurisdiction,' and 'at any time' to certify to this Court 'any question or propositions of law,' concerning which it desires the instruction of this Court for its proper decision."

Federal Constitution and Laws are Disregarded Contrary to the Course Pursued by the Circuit Court of Appeals for the Sixth Circuit.

It is the provision of the Constitution of the United States (see Section 8, Clause 7):

> "To promote the progress of science and useful arts, by **securing** for limited times to **authors and inventors the exclusive right** to their respective writings and **discoveries.**"

Congress has done its duty in this behalf in specifying in Section 4886 the things which shall be patentable, and in Section 4921 of the Revised

Statutes the jurisdiction of Courts of Equity and the recovery of both profits and damages:

> "Sec. 4921. The several Courts vested with jurisdiction of cases arising under the patent laws shall have power to grant injunctions according to the course and principles of Courts of Equity, to prevent the violation of any right secured by patent, on such terms as the Court may deem reasonable; and upon a decree being rendered in any such case for an infringement the Complainant shall be entitled to recover, **in addition to the profits** to be accounted for by the Defendant, **the damages the Complainant has sustained** thereby; and the Court shall assess the same or cause the same to be assessed under its direction. And the Court shall have the same power to increase such damages, in its discretion, as is given to increase the damages found by verdict in actions in the nature of actions of trespass upon the case. * * *"

This enactment has been specifically approved by this, the Supreme Court of the United States, in **Coupe vs. Royer, 155 U. S. 565:**

> P. 582: "There is a difference between the measure of recovery in equity and that applicable in an action at law. In equity, the Complainant is entitled to recover such gains and profits as have been made by the infringer from the unlawful use of the invention, and, since the **Act of July 8, 1870, in cases where the injury sustained by the infringement is plainly greater than the aggregate of what was made by the Defendant, the Complainant is entitled to recover the damages he has sus-**

tained, in addition to the profits received. .* * *"

These principles have been fully recognized by the United States Circuit Court of Appeals for the Sixth Circuit in the case which has been overruled by the Circuit Court of Appeals for the Eighth Circuit in the case at bar, viz., **Brennan & Co. vs. Dowagiac Mfg. Co., 162 Fed. Rep. 472,** where occurs the following luminous statements, Judge Severens speaking for the Court:

P. 473: "The result is that the master has reported, and the Court has decreed, that the Plaintiff is not entitled to recover anything beyond nominal damages. This seems an untoward ending of an apparently good cause. **Congress has exercised much solicitude** in securing to patentees the reward which it bestows for useful inventions. It has awarded a remedy for the profits made by an infringer, as well as the damages sustained by the patentee; and it has further provided that, in cases where the Court thinks the facts warrant it, the actual damages may be increased to the extent of three-fold. Rev. St. Sections 4919, 4921, (U. S. Comp. St. 1901, pp. 3394, 3395); Walker on Patents (4th Ed.) Sec. 568."

P. 477: "In the present case the infringer's conduct has been such as to preclude the belief that it has derived no advantage from the use of the Plaintiff's invention, as the master well said. In these circumstances, upon whom is the burden of loss to fall? We think the law answers this question by declaring that **it shall rest upon the wrongdoer,** who has so confused his own with that of another so that neither can be distinguished. It is a bitter response for the Court to say to the

innocent party, 'You have failed to make the necessary proof to enable us to decide how much of these profits are your own'; for the party knows, and the Court must see, that such a requirement is impossible to be complied with. The proper remedy to be applied in such cases is that stated by Chancellor Kent in Hart vs. Ten Eyck, 2 Johns. Ch. (N. Y.) 62, 108, where he said:

> 'The rule of law and equity is strict and severe on such occasion. If the party having charge of the property of others so confounds it with his own that the line of distinction cannot be traced, all the inconveniences of the confusion is thrown upon the party who produces it, and it is for him to distinguish his own propetry or lose it.'"

P. 476: "In Docker vs. Somes, 2 Myl. & Keene, 674, Lord Chancellor Brougham, when confronted with such a defense in a case involving an accounting by a trustee, said:

> "'When did a Court of justice, whether administered according to the rules of equity or law, ever listen to a wrongdoer's argument to stay the arm of justice grounded on the steps he himself has successfully taken to prevent his iniquity from being traced? Rather, let me ask, when did any wrongdoer ever yet possess the hardihood to plead in aid of his escape from justice the extreme difficulties he had contrived to throw in the way of pursuit and detection, saying, "You had better not make the attempt, for you will find I have made the search very

troublesome?" The answer is, "**The Court will try.**"'"

These authoritative quotations show exactly what has been ruled and held for naught by the United States Circuit Court of Appeals for the Eighth Circuit in the case at bar, and, although the record is as complete as it is possible to make, going fully into all facts, both of Complainant's business and of Defendants' business and all circumstances pertaining thereto, the record embodying substantially fifteen hundred printed pages, the Court has ruthlessly overruled the law above indicated, and has held contrary to the Constitution, contrary to the Statutes, contrary to the rulings of this Court and of the Court of Appeals for the Sixth Circuit, that there can be no recovery under such circumstances, and awards nominal damages only.

The Underlying Error is the Failure of the Court to Consider the Combination as an Entirety, They Having Considered the Invention to Reside in One of the Elements of the Combination. That the Claim was to a True Combination has been held by Many Courts and Eminent Jurists.

It is a grievous state of affairs that the Court in the Eighth Circuit should overrule the Court in the Sixth Circuit, and arises almost completely and solely from the view taken by the Court that the patent claim is not for a true combination, but for only a single element of the combination.

It is unfortunate that the Court should so overrule the uniform decisions of many Courts up to this time, that Complainant's patent was to a true combination and not to a mere element. Possibly this attitude of the Court is explained by the

fact that the question of profits and damages only was submitted at the argument, it having been assumed that the Court would not care to again elaborately consider the invention in view of the fact that that had been so completely ruled upon by so many eminent judges prior thereto. That the invention is a true combination was specifically held by the United States Circuit Court of Appeals for the Sixth Circuit, in the case of **Dowagiac Mfg. Co. vs. McSherry Mfg. Co., 101 Fed. Rep. 716,**

Judges Taft, Lurton and Day, affirming Judge Clark

in that particular, which decision was followed by the United States Circuit Court of Appeals for the Eighth Circuit, in **Dowagiac Mfg. Co. vs. Minnesota Moline, 118 Fed. Rep. 136,**

Judges Sanborn, Carland and Thayer, affirming the decision of Judge Lochren

on this proposition that the invention is a true combination, which decision was also followed by the United States Circuit Court of Appeals for the Eighth Circuit in the case of **Dowagiac Mfg. Co. vs. Fowler & Banks, 121 Fed. Rep. 988,**

Judges Caldwell, Sanborn and Thayer, reversing the decision of Judge Amidon,

which decision was also followed in this particular by the United States Circuit Court of Appeals for the Sixth Circuit in **Dowagiac Mfg. Co. vs. Brennan & Co., 127 Fed. Rep. 143,**

Judges Lurton, Severens and Richards,

the opinion being by Judge Severens, reversing the decision of Judge Evans.

It will therefore be seen that a large number of judges prior to this decision had held the patent to be to a true combination, and it further appears that in the cases on the two accountings which were specifically overruled by the Circuit Court of

Appeals for the Eighth Circuit, that the same were passed upon, in **McSherry vs. Dowagiac, 160 Fed. Rep. 948,** by Judges Lurton, Richards and Cochran, and in **Brennan vs. Dowagiac, 162 Fed. Rep. 473,** by Judges Lurton, Severens and Richards, which judges, it will be noted, with the exception of Judge Cochran, are judges who had already considered specifically the nature and character of the invention. Judge Severens who wrote the opinion in the Brennan case holding infringement, also wrote the decision on the **accounting,** thus showing his complete familiarity with the entire subject.

It will be noted that the judges constituting the Court of Appeals for the Eighth Circuit who passed on the case at bar, had not had the opportunity of thus reviewing the matter, and of hearing arguments on the question as to the exact character and nature of the invention, and it is believed that this accounts for their error and their failure to follow the decisions of Judge Severens, who had so fully considered this subject. It is therefore believed that the record should be reviewed by this Court so that this error may be corrected.

General Testimony Should be Considered. See Suffolk vs. Hayden, 3 Wall. 315:

It is submitted also that where the facts are fully developed and it appears that the Complainant has not an established license fee, general testimony should be considered so that justice may be done. This is the ruling of this Court in the case of **Suffolk vs. Hayden, 3 Wall. 315, 18 Law. Ed. 75; 7 Brod. 405:**

> "It is also urged that the value of the improvement was not a proper subject for the consideration of the jury in estimating the damages. This may be admitted. But looking at the term value, in the connection in which it was used, it is quite clear that it had

reference only to the utility and advantages or value of the use of the improvement over the old mode of cleaning cotton; not the value of the patent itself.

"This question of damages, under the rule given in the statute, is always attended with difficulty and embarrassment both to the Court and jury. There being no established patent or license fee in the case, in order to get at a fair measure of damages, or even an approximation to it, **general evidence must necessarily be resorted to.** And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise of a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner, by the piracy, instead of the purchase of the use of the invention.

"It is proper to say, as we said in the Court below, that the jury, in ascertaining the damages upon this evidence, is not to estimate them for the whole term of the patent, but only for the period of the infringement. A recovery does not vest the infringer with the right to continue the use, as the consequences of it may be an injunction restraining the Defendant from further use of it."

Where the Proofs Develop all the Facts, It Is the Duty of the Court to Estimate the Damages.

And this principle has been carefully consid-

ered in **McKeever vs. United States, 18 Ct. of Claims, 753; 14 Brodix, 414; 23 O. G. 1525,** the language of the Court of Claims being as follows, which was specifically affirmed by this, the Supreme Court of United States:

> "It is apparent here that the **claimant has produced about all the evidence that the nature of his case admits of;** and it is to be noted that the Defendants have produced no evidence whatever to controvert it. The claimant perhaps might have produced experts to estimate the value of the other inventor's original improvement, but the manufactured article has been before us, and it is manifest that the testimony of such witnesses would have been entirely conjectural, and would amount to nothing more than substituting their judgment, from an inspection of the article, for that of the Court.
>
> "The rate of damages in patent cases may now be said to be generally (1) that the Plaintiff may recover in equity the profits which the infringer has made from the use of the invention, or (2) that he may recover at law the profits which he, the Plaintiff, has lost by reason of the Defendant's infringement; and that these profits lost, where it can properly be done, will be regarded as simply the fee which would have been charged if the infringer had produced a license. But in cases where the Plaintiff has evinced an intention to exercise an exclusive use of his invention, and in cases where the sales of licenses have been too few to establish a criterion of their actual or market value, Courts have sought for other elements or evidences to determine the profits lost. In Suffolk vs. Hayden, 3

Wall. R. 15 (7 Am. & Eng. 405) Mr. Justice Nelson said:

> "'The question of damages under the rule given in the statute is always attended with difficulty and embarrassment both to the Court and jury. There being no established patent or license fee in the case, in order to get at a fair measure of damages or even an approximation to it, general evidence must necessarily be resorted to. And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise of a sound judgment, to ascertain the damages, or, in other words, the loss to the patentee or owner by the piracy instead of the purchase of the use of the invention."

It is believed that his Honor Judge Severens, speaking in the Circuit Court of Appeals for the Sixth Circuit, in considering a complex situation created by the ingenuity of the Defendant, correctly stated the principle of law when he said, quoting from the authority, "The Court will try."

The Defendants here have wilfully admixed their goods with those of Complainant. They now interpose that fact as their defense. The Court should certainly consider all the proofs that justice may be done the injured party, and that the

wrongdoer should suffer. Particularly is this appropriate when the Defendants have asked and obtained leave to give a bond to respond in damages in order that the injunction may be suspended, as has been done in this case at bar.

Decisions on which the Court of Appeals for the Eighth Circuit Relied are by a Divided Court.

It will be noted that the decisions of **Westinghouse v. Wagner, 173 Fed. Rep. 361,** and the case of **Brown v .Lanyon, 179 Fed. Rep. 309,** relied upon by the Court below, both contain dissenting opinions, Judge Sanborn in each dissenting.

In Westinghouse v. Wagner, Judge Sanborn, in dissenting, refers to a full line of authorities by this Court and with special approval to the case of **Brennan v. Dowagiac, 162 Fed. 472, saying at p. 377 of Vol. 173:**

> "In like cases, upon evidence similar, but far less accurate and convincing than that in this record, infringers have been refused permission to take advantage of their own wrong, and have been required to pay the estimated profits they derived from the infringing devices by the Circuit Court of Appeals for the Sixth Circuit in Brennan & Company v. Dowagiac Mfg. Co., 89 C. C. A. 392, 162 Fed. 472, 476; Dowagiac Mfg. Co. v. Superior Drill Co., 89 C. C. A. 399, 400, 162 Fed. 479, 480, and R. P. Mast & Company v. Superior Drill Co., 154 Fed. 45, 57, 83 C. C. A. 157, and by the Circuit Court of Appeals in the Second Circuit in Wales v. Waterbury Mfg. Co., 101 Fed. 126, 130, 41 C. C. A. 250, 253, 254, and I am of the opinion that this Court ought to pursue the same course in the case before us."

This Court should review these cases at bar in the interest of uniformity of decision and so that the contract between the government and the inventor shall be carried out and so that the inventor shall be protected according to his right under the Contsitution, Congress having made ample provision to that end, as has been so ably held by the Court in the Sixth Circuit, speaking through Judge Severens, in passing on an identical matter. The writ of certiorari should be granted, as prayed for in the petition.

Respectfully submitted,

Solicitor and of Counsel for Petitioner, the Dowagiac Manufacturing Co.

Of Counsel.

OPINION

- OF THE -

CIRCUIT COURT OF APPEALS

- FOR THE -

EIGHTH CIRCUIT

ANNOTATED BY

COUNSEL

United States Circuit Court of Appeals

EIGHTH CIRCUIT.

No. 3041—September Term, A. D. 1910.

Dowagiac Manufacturing Company, Appellant,
vs.
Minnesota Moline Plow Company and Thomas H. Martin, Appellees.

Appeal from the Circuit Court of the United States for the District of Minnesota.

No. 3042—September Term, A. D. 1910.

Dowagiac Manufacturing Company, Appellant,
vs.
Ernest F. Smith and Luppo Zimmer, Appellees.

Appeal from the Circuit Court of the United States for the District of Minnesota.

Mr. Fred L. Chappell for Appellant.

Mr. Thomas A. Banning (Mr. Samuel W. Banning and Mr. Walker Banning were on the brief) for Minnesota Moline Plow Company, Appellee.

Mr. Julius S. Starr for Ernest F. Smith and Luppo Zimmer, Appellees.

Before HOOK and ADAMS, Circuit Judges, and McPHERSON, District Judge.

ADAMS, Circuit Judge, delivered the opinion of the court.

These were suits in equity to enjoin the infringement of United States patent No. 446,230, granted to Will F. Hoyt, February 10, 1891, and for an accounting of damages and profits. The Circuit Court sustained the patent, awarded an injunction against infringement and referred the causes to a master to take the account. He reported for nominal damages only. The Circuit Court confirmed the report and entered final decrees accordingly. Complainant appeals.

The only question is whether the proof warranted a finding for substantial damages. The invention was for an improvement in grain drills of a well known preexisting type, the "shoe drill." Its object, as stated in the specification of the patent, was "to provide an independent spring-pressure for each of the shoes and covering-wheels of the drill, whereby the work of the drill is rendered efficient in uneven ground, and to provide means whereby said shoes and covering-wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another."

The patent assumes the existence of practically all the elements of well known grain drills then in existence except the means for exerting an effective pressure upon the shoes in order to elevate or depress them as occasion required. The claims provide for a certain spring metal pressure rod to accomplish this

purpose. The interposition of this rod, in combination with old elements constituted the invention of the patent.

The principle and scope of the invention have been the subject of considerable judicial inquiry and the results may be briefly stated: In **McSherry Mfg. Co. vs. Dowagiac Mfg. Co.,** 101 Fed. 716, 721, it was said: "Grain drills were old. Shoes and press-wheels are elements found in other structures." * * * * "That Hoyt's drill is a marked improvement over older structures is most clear." * * * "Hoyt was not a pioneer. But this invention is cleraly a meritorious one." * * *

In **Dowagiac Mfg. Co. v. Minnesota Moline Plow Co.,** 55 C. C. A. 86, 118 Fed. 136, 139, this Court had the Hoyt patent under consideration and said of it: "The function of the device in the Hoyt patent was to control the depth of the cut of the shoe by a regular pressure easily exerted by means of a lever, and by the same means to regulate the shoe in uneven ground, and to raise the shoe from the ground when not in use. The principle of the combination was old. The result attained old." * * * "Hoyt, it is true, was not a pioneer." It was there said by Judge Thayer, in a dissenting opinion not differing in this respect from the majority, as follows: "Hoyt's patent, confessedly, does not cover a pioneer invention, but merely a new combination of old elements to accomplish a result which had previously been acomplished." * * * "When the Hoyt patent was issued, what are termed 'shoe drills' were in common use, and various means had been employed by the manufacturers of such drills for applying pressure to the shoes, and for elevating them when the operator desired to do so." See also **Dowagiac**

Mfg. Co. v. Fowler, 58 C. C. A. 643, 121 Fed. 988.

In **Dowagiac Mfg. Co. v. Brennan & Co.,** 62 C. C. A. 257, 127 Fed. 143, 145, the Circuit Court of Appeals for the Sixth Circuit, in considering this patent, said: "The objects which the inventor had in view were twofold, first, to provide means for depressing the shoes of the drill to meet the requirements of its movements when in operation upon differing and uneven surfaces, and second, to provide means for lifting the shoe and its attachments off the ground while the drill is being moved from place to place. There were in use devices for both these purposes, but they lacked the desired simplicity, convenience, and ease of management." * * * "Some, perhaps all, of these advantages had, in a way, been supplied by the former art; but they had not, so far as we can see, been so completely gathered together or attained in so simple and useful a way."

In view of these decisions it is unnecessary to enter upon any independent discussion of the scope of the patent. While its claims call for all the elements of a then well known grain drill, namely: transporting wheels, frame, hopper, shoe, draft-rods, clamping-plates, etc., the spring metal pressure rod used in combination with those elements, constitutes the pith of the

The fundamental error is the ruling that invention rests in a specific part. See note below showing the previous ruling that invention is a true combination.

It had been ruled by the following Judges constituting Courts of Appeals in the cases indicated, that the invention is a true combination:
Judges Taft, Lurton, Day, affirming Judge Clark, Dowagiac vs. McSherry.
Judges Sanborn, Carland, Thayer, affirming Judge Lochren, Dowagiac vs. Minn. Moline.
Judges Caldwell, Sanborn, Thayer, reversing Judge Amidon, Dowagiac vs. Fowler & Banks.
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Judges Lurton, Richards, Severns, on accounting, Brennan vs. Dowagiac.
Consequently no apportionment was required.

invention. It rests in the improvement of a specific part of a well known structure.

Its character and scope have been thus briefly adverted to because they are important in determining the true measure of recovery for its infringement. The general rule in patent cases like all others is that a Complainant is entitled to recover damages for the loss he has sustained by reason of the wrongful acts of the infringer and the burden is on him to show how much it is. This was laid down by Mr. Justice Field, speaking for the Supreme Court, in the case of **Garretson v. Clark,** 111 U. S. 120. He said: "When a patent is for an improvement, and not for an entirely new machine or contrivance, the patentee must show in what particulars his improvement has added to the usefulness of the machine or contrivance. He must separate its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated." And quoting from Mr. Justice Blatchford, who was the trial judge in the case, he added: "The patentee must in every case give evidence tending to separate or apportion the Defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative."

Authorities to the foregoing general effect are numerous and their citation would be useless.

Complainant offered proof tending to show the profits made by Defendants in sales of the entire structure without making any apportionment of them to the patented feature, as distinguished from the balance of the drill. It claimed the doctrine of apportionment to have

no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purpose of an accounting, to be considered as appropriated by the patentee and if there is an infringement ot the novel feature all the profits made by the infringer upon the whole combined structure are recoverable and that proof of those made by reason of the novel feature alone is unnecessary. Reliance for this contention is placed upon the cases of **McSherry Mfg. Co. v. Dowagiac Mfg. Co.**, 89 C. C. A. 26, 160 Fed. 948, and **Brennan & Co. v. Dowagiac Mfg. Co.**, 89 C. C. A. 392, 162 Fed. 472.

Without now analyzing these cases, it serves our present purpose to say, that if they support the contention of the Complainant they seem out of harmony with the doctrine of the Supreme Court and our Court as disclosed in many cases and particularly the following: **Garretson v. Clark**, (supra); **Tilghman v. Proctor**, 125 U .S. 136; **McCreary v. Pennsylvania Canal Co.**, 141 U. S. 459; **Crosby Valve Co. v. Supply Valve Co.**, 141 U. S. 441, 453; **Sessions v. Romadka**, 145 U. S. 29; **Keystone Mfg. Co. v. Adams**, 151 U. S. 139, 147; **Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co.**, —— C. C. A. ——, 173 Fed. 361.

This court specifically overrules U. S. Court of Appeals for Sixth Circuit, the Judges of which had repeatedly reviewed the patent prior to decision on the accounting.

These cases have recently been considered by us in an opinion written by Van Devanter, Circuit Judge, in the case of **Brown v. Lanyon Zinc Co.**, —— C. C. A. ——, 179 Fed. 309,

where a conclusion was reached adverse to Complainant's present contention.

Judge Sanborn wrote dissenting opinions in Westinghouse vs. Wagner and Brown vs. Layton here relied on, showing his concurrence specifically with decisions of the Sixth Circuit by referring to same.

These authorities make it clear, we think, that an apportionment of profits between the patented and unpatented parts of the drill was indispensably necessary. The invention did not inhere in the entire machine as an entity, but was only an improvement in a single element of an otherwise well known device.

It is next contended that the entire value of the machine as a marketable article was properly and legally attributable to the particular patented feature, that it was derived from the Hoyt invention exclusively and, therefore, within the rule laid down in the cases already cited and **Westinghouse v. New York Air Brake Co.,** 72 C. C. A. 51, 140 Fed. 545, it was entitled to recover all the profits which the Defendant made by the sale of the grain drills embodying the novel feature.

This depends upon the facts of the case, and they upon the evidence of the witnesses. The master who took the evidence heard the witnesses, observed their demeanor and formed his conclusion as a result of all those considerations which appropriately affect the mind of a trier of facts. His conclusion was reviewed on exceptions by the learned trial judge. Both of them found against the contention. There being no obvious error of law or serious mistake of fact, their findings will be accepted as true. **Moline Plow Co. v. Carson,** 81 C. C. A. 606, 72 Fed. 387; **Brown v. Lanyon Zinc Co.,** (supra). In this case not only is their conclusion presumtively correct but a careful examination of the proof convinces us that it is actually so.

Complainant next argues that its grain drill was so peculiarly adapted for use in what was

known as the Nortwest Territory that it had known as the Northwest Territory that it had superseded all other grain drills in that Territory and could and would have been supplied with reasonable promptness by the Complainant if the Defendants had not entered the field, and for that reason, within the rule laid down in **Manufacturing Co. v. Cowing,** 105 U. S. 253, it was entitled to recover as damages all it would have made by selling its machine to all the persons who purchased from the Defendants in that Territory. This contention also depended upon the proof. The master and the court below found against Complainant on it and there is not only ample evidence to support their finding but, in our opinion, gathered from a careful review of the proof, they could not well have found otherwise.

One question remains for consideration. The costs of the accounting were large, and in view of the fact that Complainant recovered only nominal damages the trial court ordered it to pay all costs attending the accounting, including the hearing on the exceptions to the masters report. We think this was right. Common practice in such cases seems to be to award the costs of the accounting against a Complainant who without legal cause necessitated them. **Kirby v. Armstrong,** 5 Fed. 801; **Ingersol v. Musgrove,** 14 Blatch. 541, Fed. Cases No. 7040; **Robbins v. Illinois Watch Co.,** 78 Fed. 124; **Kansas City Hay Press Co. v. Devol,** 127 Fed. 363.

While it is a rule of general application that the award of costs in equity rests in the sound discretion of the chancellor and is made according to the facts and circumstances of each particular case, we think the practice referred

to should be a general guide. The decrees as rendered must be **Affirmed.**

Filed October 24, 1910.

A true copy.

Attest:

JOHN D. JORDAN,
Clerk U. S. Circuit Court of
Appeals, Eighth Circuit.

Office Supreme Court, U. S.
FILED.
MAR 14 1913
JAMES H. McKENNEY,

Supreme Court of the United States

OCTOBER TERM, 1912.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
MINNESOTA MOLINE PLOW CO., et al.,
Respondents.
No. 194 (212)

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.
No. 195 (213)

Brief on Behalf of Petitioner

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SUPREME COURT OF THE UNITED STATES.

October Term, 1912.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
MINNESOTA MOLINE PLOW CO., et al.,
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No 212

DOWAGIAC MANUFACTURING CO.,
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Respondents.
No. 213.

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SUPREME COURT OF THE UNITED STATES.
OCTOBER TERM, 1911.

DOWAGIAC MANUFACTURING COMPANY,
Petitioner,
vs.
MINNESOTA MOLINE PLOW COMPANY, et al.
No. 494.

DOWAGIAC MANUFACTURING COMPANY,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER.
No. 495.

BRIEF FOR PETITIONER.

These causes come before this Honorable Court in obedience to writs of certiorari directed to the United States Circuit Court of Appeals for the Eighth Judicial Circuit. The two cases were heard together below, the proofs are substantially the same in the two cases, and the questions of accounting are precisely the same, the differences being simply in amounts and possible rates of recovery.

These suits are in equity on the part of the petitioner, against the respondents for an injunction and an accounting of profits and damages by reason of the infringement of United States Letters Patent No. 446,230, issued February 10, 1891, to

Will F. Hoyt, for Grain Drill, and duly assigned to the petitioner.

Minnesota Moline Plow Case: The bill of complaint was filed in this case in February, 1898, and on the 4th day of January, 1902, there was entered a decree for the complainant, and among other things there was ordered and adjudged an accounting as to ascertain structures, and certain other structures were held not to infringe. Thereupon an appeal was taken to the United States Circuit Court of Appeals for the Eighth Circuit. The case was decided, see 118 Fed. Rep. 136, and on December 26, 1902, the mandate of that court was entered and filed in the Circuit Court, modifying the decree of the Circuit Court as to the structures held not to infringe, and when the decree was thus modified it was affirmed. Thereupon, on August 4th, 1903, another decree was entered in conformity with the mandate appointing a Master and ordering an accounting. Thereafter voluminous proofs were adduced on the said accounting, experts being sworn, farmers and dealers from the entire territory where such grain drills were made use of were called to testify as to the merits of the devices, the only unpatented grain drill on sale in the territory, which was also manufactured by the complainant, was referred to, and its cost of manufacture and sale and the profits thereon fully shown. This was done to provide a standard of comparison in the event that a standard of comparison should be deemed necessary by the master or court. Complainant had the firm belief that it would not be required. The large profits made by the complainant were shown. Showing was made as to the thoroughness with which the territory where the particular drills were available, was covered by the complainant. The profits made by the defendant were fully gone into, and appear substantially as a stipulated fact in the case. The Master thereupon

considered the testimony and the **law** at great length, and said (R. P. 54):

> "I am aware that a different conclusion has been reached in the accounting in the McSherry case in the Sixth Circuit, but the evidence presented to the Master there is not before us, and we do not know what it is."

and then comments that it certainly must have been different from that before him,—this, notwithstanding the record was the same in substance.

The Master wrongly put particular stress on the **spring** of the structure, and says (R. P. 16):

> "The testimony of the experts called by both parties in these cases will reveal the fact that practically all of it relates to the **spring** pressure devices. And there is every reason why it should, for the spring pressure device of the Hoyt patent is the very life of this litigation."

The Master says, at R. P. 56:

> "I think the complainant has suffered damages by these infringements, but construing the scope of this patent as I have, under the evidence in this case and the law in relation to recoveries in actions of this kind, I think it is entitled to nominal damages only."

Smith & Zimmer Case: The bill of complaint in this case was filed in October, 1899, and the decree entered by the Circuit Court on the 12th day of April, 1901, referring the cause to a master; and from February, 1902, to August, 1905, evidence was

taken (R. P. 58). The master indicates the estimates of profits at R. P. 59, but does not make any finding because his theory is the same as that of the master in the Minnesota Moline Plow case. He also calls attention to the fact that complainant directs attention to Judge Clark's decision in the McSherry case, awarding entire damages, and he says he thinks (erroneously, however) that the testimony in the McSherry case must have been different. At R. P. 63 he deplores that the complainant will not be able to recover, saying:

> "the patentee should be compensated for an infringement of his patent, both because the infringer must have profited by the infringement, else he would not have infringed, and also because the patentee is damaged thereby."

and yet he awarded nominal damages in the sum of one dollar.

Exceptions to Master's Report: When these Masters' reports were filed, under the practice of the Eighth Circuit exceptions by complainant were filed thereto, substantially the same exceptions to each, **and both cases were brought on for hearing on exceptions to the Master's report** at the same time, before Judge Amidon, sitting as the Circuit Court for the Fourth Division of the District of Minnesota. Immediately on the conclusion of the argument he delivered his opinion orally, R. P. 88-93. He erroneously ruled that the "essential difference of his invention is not a press drill but it is this spring pressure device for pressing the shoes into the ground." He then disregarded the voluminous proofs adduced by the complainant, saying (R. P. 90), "The complainant here has not attempted to do that," and says further, notwithstanding the exhaustive proofs, "I think the com-

plainant has proceeded upon an unjustifiable basis." He discussed matters generally, disregarding the voluminous proofs, as he did not have time to consider them during a short oral argument. Counsel called his attention to the fact (R. P. 93), saying,

> "I think that you have possibly overlooked that very complete figures have been submitted in the schedule on the unpatented hoe drill which, as we view it, was the only unpatented drill that was on sale, and I was wondering whether or not in the remark that you made you had overlooked that structure."

and the court said:

> "I had not overlooked that, but I do not think that your duty is performed by using a hoe drill as a basis of comparison."

There was nothing else that could possibly be used as a standard of comparison.

A petition for rehearing was filed in each case (R. P. 93-94), and was overruled. An order was made against the complainant for costs, and a decree was finally entered for nominal damages and complainant to pay the costs.

Appeal: Thereupon an appeal was taken in each case with elaborate and complete assignments of error (R. P. 98-109), the assignments of error being substantially duplicated in each case.

The assignments of error were not generally considered by the appellate court on appeal, but that court ruled in its opinion (and declined to consider other matters), that the complainant had made no apportionment of profits and damages. The opinion appears at R. P. 1385-1390 inclusive, and was filed October 24, 1910, and affirmed in toto

the decree of the court below in both cases. Incidentally it will be remarked that the court comprised Hook and Adams, Circuit Judges, and McPherson, District Judge, no one of whom had taken any part in any previous decision so far as the patent in suit was concerned.

The Court of Appeals ruled that the invention was in effect a **spring pressure rod,** saying, at R. P. 1387:

> "The interposition of the rod, in combination with old elements constituted the invention of the patent."

and at R. P. 1388 said:

> "While its claims call for all the elements * * * the spring metal pressure rod used in combination with those elements, constitutes the pith of the invention. It rests in the improvement of a specific part of a well known structure."

On this erroneous theory the rule of law in **Garretson vs. Clark,** 111 U. S. 120, was erroneously applied. The court erroneously said, R. P. 1388:

> "Complainant offered proof tending to show the profits made by defendants in sales of the entire structure without making any apportionment of them to the patented feature, as distinguished from the balance of the drill."

yet the complainant had offered complete proof as to the only unpatented grain drill on sale in the territory during the period, viz., the unpatented hoe drill, as appears from the record herein. This complainant considered was unnecessary but offered as

proof, so that the entire facts would be before the court.

The court then proceeded to overrule the decisions of the Court of Appeals for the Sixth Circuit under an exactly parallel state of facts, saying at R. P. 1389:

> "Reliance for this contention is placed upon the cases of McSherry Mfg. Co. vs. Dowagiac Mfg. Co., 89 C. C. A. 26, 160 Fed. 948, and Brennan & Co. vs. Dowagiac Mfg. Co., 89 C. C. A. 392, 162 Fed. 472.
>
> Without now analyzing these cases, it serves our present purpose to say, that if they support the contention of the complainant they seem out of harmony with the doctrine of the Supreme Court and our Court as disclosed in many cases and particularly the following: Garretson vs. Clark (supra); Tilghman vs. Proctor, 125 U. S. 136; McCreary vs. Pennsylvania Canal Co., 141 U. S. 459, Crosby Valve Co. vs. Supply Valve Co., 141 U. S. 441, 453; Sessions vs. Romadka, 145 U. S. 29; Keystone Mfg. Co. vs. Adams, 151 U. S. 139, 147; Westinghouse Elec. & Mfg. Co. vs. Wagner Elec. & Mfg. Co., ... C. C. A. . . . ., 173 Fed 361."

The case of Westinghouse vs. Wagner, reported at 173 Fed. 361, is the case that was brought to this court by writ of certiorari, and the error of the Circuit of Appeals for the Eighth Circuit in this behalf has been corrected by the decision of this court, reported in Westinghouse vs. Wagner, 225 U. S. 604-623, in which decision this court quoted with approval the language of the Circuit Court of Appeals for the Sixth Circuit in the case of Brennan vs. Dowagiac, 162 Fed. Rep. 476, the quotation occurring at 225 U. S. page 621. This is the case spe-

cifically ignored by the Court of Appeals in this case.

Because of the diametrically opposed opinions of the Circuit Court of Appeals in these cases at bar, to the United States Circuit Court of Appeals for the Sixth Circuit, petitions for writs of certiorari were filed in both cases in this court, which petitions were allowed January 27, 1911, and writs of certiorari were duly filed April 12, 1911.

Infringing Structure: There are two slightly different forms of infringing structures made by the two respondents, both of which were held to be infringements of the patent in suit. While it was open to defendants, Smith and Zimmer, to have taken an appeal from the final decree because of the holding of infringement and the issuing of an injunction, yet no such appeal was taken, and consequently no question as to the validity, scope and infringement of the patent was raised by defendants, Smith and Zimmer on appeal.

The question of the validity and infringement of the patent was not open to the Minnesota Moline Plow Company on the accounting, as that had already been determined on appeal to the Circuit Court of Appeals for the Eighth Judicial Circuit, 55 C. C. A. 86, 118 Fed. Rep. 136, and a petition for writ of certiorari to this court had been denied November 3, 1902, 187 U. S. 644.

The petition in this case therefore has to do with the rules of law relating to the questions of recovery of profits and damages in an accounting because of infringement of the patent in suit.

Assignments of Error.

The petitions for writs of certiorari are substantially the same in both cases, and as the records come from the Circuit Court of Appeals in

obedience to the writs of certiorari, they contain no formal assignments of error, but reference to the petitions will show that they were based upon the following grounds:

I. That the Circuit Court of Appeals erred in disregarding the fact that the complainant's patent is for a combination of elements constituting substantially an entire new machine, and that as a consequence the complainant had the right to recover all the profits made by the defendant and full damages in the manufacture and sale thereof, and was not called on to apportion either profits or damages between patented and other or unpatented features.

II. That the Circiut Court of Appeals erred in not finding that the complainant had suffered damages in excess of the profits made by the defendant, and was entitled to recover damages in addition to the profits made by the defendant.

III. The Circuit Court of Appeals erred in not taking into consideration the complete, general and exhaustive evidence adduced in the case in view of the fact of the absence of proofs that establish a specific royalty or an established license fee, under which circumstances general evidence must necessarily be resorted to, there having been no licenses, but complainant having exercised its right in the invention and patent by manufacture and sale of the grain drills in accordance therewith.

IV. That the Circuit Court of Appeals erred in not following the rule of law, since specifically approved by this court, in Westinghouse vs. Wagner, 225 U. S. 604, and established prior thereto by controlling authority, that in the event of confusion of profits and damages in an accounting, all the inconvenience of confusion is thrown upon the party who produced it, and it is for him to distinguish his own property or lose it, the wrongdoers here being the respondents.

V. That the Circuit Court of Appeals erred in disregarding the authoritative determination of the various Circuit Courts of Appeals, that the Hoyt patent in suit was to a true combination and an entire machine, and not to a mere new element.

VI. That the Circuit Court of Appeals erred in not taking into consideration that the showing made by the complainant was as complete as it was possible to make in a patent accounting case of this kind, and that no single theory was advanced as controlling in the case, but that all possible facts were adduced in evidence and offered to the court for its consideration, under which circumstances it was the duty of the court to consider the same and do justice between the parties. At least the "court should try."

VII. That the Circuit Court of Appeals erred in not correcting the Masters in their erroneous consideration of independently patented grain drill structures that were not open to the public, and in considering structures appearing in prior expired patents which were not in use within the territory of infringement or in any other place, as having any bearing whatsoever on the questions of apportionment of either profits or damages, the same constituting pure matters of speculation and not of evidence, the complainant petitioner having offered in evidence proofs as to the only unpatented grain drill structure that was being manufactured and sold that was available for any purposes of comparison whatsoever.

Prior Litigation.

Whenever the Hoyt patent here in suit was brought to the attention of the United States Circuit Courts of Appeals prior to the decision of the Circuit Court of Appeals in this accounting matter, the uniform holding was that the Hoyt patent was

for a true combination constituting substantially an entirety. This was the holding in each of the following litigations:

Dowagiac Mfg. Co. vs. McSherry Mfg. Co., 101 Fed. Rep. 716, in the United States Circuit Court of Appeals for the Sixth Circuit, Judges Taft, Lurton and Day, affirming the decision of the United States Circuit Court for the Southern District of Ohio, Western Division, by Judge Clark.

Dowagiac Mfg. Co. vs. Minnesota Moline Plow Co., 118 Fed. 136, in the United States Circuit Court of Appeals for the Eighth Judicial Circuit, Judges Sanborn and Carland, with Thayer dissenting as to one infringement.

Dowagiac Mfg. Co. vs. Fowler-Banks, 121 Fed. Rep. 988, United States Circuit Court of Appeals for the Eighth Circuit, Judges Caldwell, Sanborn and Thayer.

Dowagiac Mfg. Co. vs. Brennan & Co., 127 Fed. Rep. 143, in the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards.

Dowagiac Mfg. Co. vs. Deere & Webber, 153 Fed. Rep. 177, in the United States Circuit Court of Appeals for the Eighth Circuit, Judges Sanborn, Hook and Adams.

which position was also considered and specifically

applied in accountings by the United States Circuit Court of Appeals for the Sixth Circuit in McSherry vs. Dowagiac, 160 Fed. Rep. 948, and in Brennan vs. Dowagiac, 162 Fed. Rep. 472, these being the cases specifically overruled in the case at bar.

The matter cannot be better stated than it was stated by Judge Severens in the case of Brennan vs. Dowagiac, 162 Fed. Rep. 472, 89 C. C. A. 392, above referred to. He first comments, at the bottom of p. 474 of 162 Fed. Rep.:

> "The fundamental proposition on which the report in respect to the profits rests is that the whole of Hoyt's invention and patent **resides in the spring pressure device** and does not extend to other parts of the drill."

Judge Severens corrected this clear misapprehension, saying, p. 475:

> "The claims of the patent in suit are not restricted to single things, but some of them —the first, for instance—include the several elements which go to make up the seeding part of a drill, in combination. **It covers them all as one whole.** Every one is made material by including it in the combination **The spring devices are not thereby patented.** For the purposes of the claim and the patent thereon, they are on the same footing with all the other parts of the drill, however old and common they may be. Any one might make and sell each and every part, or any lesser or larger combination of such parts, including the spring device, without infringing the patent, provided, of course, they are not intended to contribute to the making up of the entire combination covered by the

patent. But one part in a combination is no more patented than another. All in association are patented."

"The case here is not a patent for an improvement upon another article, which does not cover that other article, but only the improvement made upon it. The patentee cannot in such case extend his invention over the thing improved, if the latter is patented. If not, he may appropriate it, as others of the public may. The distinction is well illustrated by the improvement of the harvester in Seymour vs. McCormick, 16 How. 480, 14 L. Ed. 1024. When, therefore, the defendant sold one of the plaintiff's machines, he sold that which in all its associated parts was covered by the patent; and a Dowagiac drill, without the Hoyt patented combinations, would be but the fragment of a drill and have no distinctive character. The invention was **not** an addition to an otherwise complete machine."

This language supporting this proposition, as finally stated by Judge Severens in his opinion on behalf of the Circuit Court of Appeals for the Sixth Circuit, was the last of these decisions, and was after a most thorough litigation of the patent in suit in many suits. It was passed upon and sustained by Circuit Judges Taft, Lurton and Day in the Sixth Circuit, who affirmed Judge Clark of the Circuit Court, by Circuit Judges Sanborn and Carland in the Eighth Circuit, with Circuit Judge Thayer dissenting on the question of infringement, by Judges Caldwell, Sanborn and Thayer in the Eighth Circuit, by Judges Lurton, Severens and Richards in the Sixth Circuit, by Judges Lurton and Cochran in the Sixth Circuit with Judge Richards dissenting as to some particular, and by Judges

Lurton, Severens and Richards in another case.

It will be noted that, in no instance where the question of the invention itself and the structure itself has been particularly discussed and compared with the prior art, does the name of any one of the judges constituting the court below in this accounting case appear as having taken part therein. It is suggested that likely their want of familiarity with the entire evidence has caused them to be misled in this behalf, for naturally on this accounting the accounting questions were the questions discussed at the argument, and with the array of eminent judges who have passed on this matter, as indicated herein, it was not regarded as necessary to discuss the specific merits of the invention and claims. This statement is made advisedly. While the names of two of the judges appear in the Deere & Webber case, the patent is not discussed in that case.

Grain Drills.

A grain drill is a farm implement, comprising devices called furrow openers which are carried in a rank on a suitable framework which is usually provided with carrying wheels, and a seed distributing device is usually connected to be operated from the power generated by the action of the wheels due to the drawing of the machine over the ground. The furrow openers project into the soil, and pressure means are devised for forcing them into the ground, and boots or hoppers are provided to deliver the grain into the opened furrows.

Up to the time of the Hoyt invention of the patent in suit, the furrow openers most generally used were of what is known as the hoe type, having sharp plowing points that project downwardly and forwardly into the ground, plowing open little furrows. In well cultivated districts where winter wheat and similar crops are grown on thoroughly

tilled fields, these machines were and are quite satisfactory.

The Grain Drill Problem of the Northwest.

The problem in the territory known as the Northwest, however, was very difficult. In this region spring wheat is grown. The growing season is short, the seed wheat must be drilled into the ground very early in the spring in order that it may have time to grow and mature. This necessitates that the grain drill be worked on ground that is wet and muddy, and in what is called the "gumbo" soil of the Red River Valley that mud is very sticky. When the ground was new and unencumbered with the growth of stubble and trash and the sod not entirely subdued, broad-cast seeders and even to some extent hoe drills were made use of. In harvesting a wheat crop, however, as little of the straw is taken off with the wheat heads as possible, the winter season closes in before the long stubble on the ground has had time to in any way decay, the cold winter weather and the snow preserve this straw, so that the following spring it is tough and hard to break. In this Northwest region wheat is sown after wheat, and a hoe drill, with its sharp pointed plow projecting downwardly and forwardly into the ground, was found to be impossible, as it accumulated great quantities of this trash on the furrow openers, preventing the functioning thereof. Shoe grain drills were tried; that is, grain drills in which a furrow opener with a knife-like edge like a runner penetrated the soil, with a boot or hopper at the heel.

The earlier grain drills of this type were found to be unsatisfactory. The shoe furrow openers did not sufficiently penetrate the ground, owing to the presence of the trash, and when spring pressure was applied thereto, it was found that tough trash

would accumulate in front of these runners, so that while the shoe grain drill with sharp runners was an improvement over the hoe grain drill type, yet much was left to be attained in this behalf. The mere applying of spring pressure to the shoes was ineffectual.

The Patent in Suit.

It remained for Will F. Hoyt, the patentee of the patent in suit, to solve the problem of successful seeding. He reorganized the whole drill and made an improved spring pressure drill of it.

The merits of his machine were developed in the record in the main case. The patent in suit discloses a structure which solved the difficult problem, and it was well said, in the decision in the main case below, by Judge Carland, 118 Fed. Rep. 141:

> "Indeed, it is very plain that defendant's new structure would never have existed, if Hoyt had not taught how to make it."

Considering the prior art, the court said, at page 118, Fed. 139:

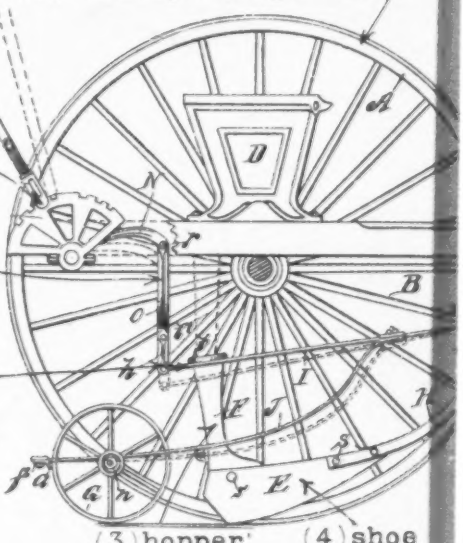
> "No one of them discloses the device or combination of Hoyt, or anything near enough to it to take his improvement out of the category of inventions and relegate it to that of mechanical skill."

and he says:

> "The testimony shows that the public by large purchases appreciated Hoyt's device; and, while this fact is not controlling, it is entitled to consideration, when commercial success is not shown to be due to other

CLAIM 1 OF THE HOYT PATENT IN SUIT ANALYZED WITH FIG. 1 THEREOF. THE OTHER CLAIMS ARE SUBSTANTIALLY

"In Combination with (1) transporting-wheels



(9) means for raising and lowering said arm

(8) a forked arm coupled to said rods

(7) spring-metal pressure-rods attached to said plates, said rods extending rearwardly of the hopper

(3) hopper (4) shoe

substantially as specified.

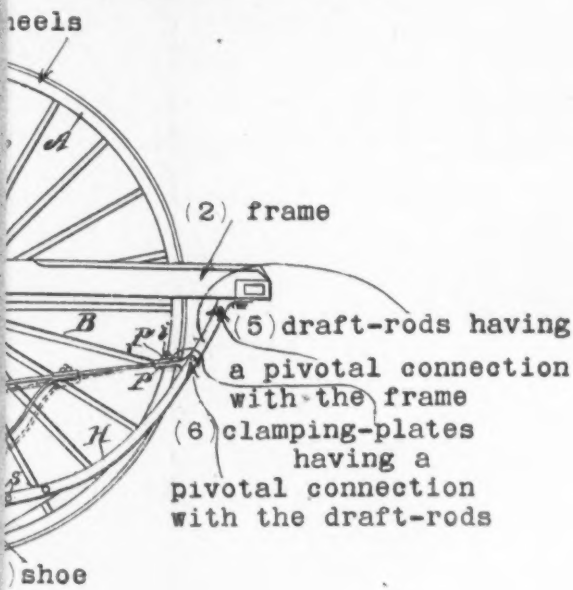
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The exact language of Claim 1 with the e

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"In combination with (1) transporting-wh (3) hopper, (4) shoe, and (5) draft-rods, the la connection with the frame, the (6) clamping-pl nection with the draft-rods, (7) the spring-me to said plates, said rods extending rearwardl forked arm coupled to said rods, and (9) mean said arm, substantially as specified."

ZED WITH ELEMENTS INDICATED ON
SUBSTANTIALLY THE SAME.



cified."

h the elements numbered .

ting-wheels and (2) frame, the
the latter having a pivotal
ng-plates having a pivotal con-
ng-metal pressure-rods, attached
wardly of the hopper, (8) the
means for raising and lowering

causes. * * * We are clearly of the opinion that the Hoyt patent is valid."

A cut is here inserted which shows Fig. 1 of the Hoyt patent, below which is quoted claim 1, and the same is separated into its elements duly numbered and applied to the parts. This shows with absolute certainty and clearness that the claim is a true combination claim, relating to every part of consequence in this entire shoe grain drill. It has been well said by Judge Severens in the Brennan case, that if these parts enumerated in the claim were withdrawn there would be an inconsequential valueless fragment left.

Justice Lurton, then Judge Lurton, said of this structure, 101 Fed. Rep. 721:

> "That Hoyt's drill is a marked improvement over older structures is most clear, on the evidence. Its lightness, durability, simplicity of construction and operation, seem established. Its long, elastic springs give it a wide range of action over uneven surfaces. It needs few repairs. These qualities have contributed to its popularity, and brought it into extensive use. The novelty of the combination is not disputed. Its utility and success are proven facts."

which language is but confirmed by the opinion of the Circuit Court of Appeals for the Eighth Circuit directing the decree for an accounting of profits and damages in this case at bar.

Accounting.

In the accounting in these cases, the Masters herein have not indicated any finding as to amounts of profits or damages, and have not considered the

extensive tables or items or the stipulations and proofs as to profits and damages that have been offered to them for their consideration. The complainant offered a complete showing as to its entire business affairs in the Dowagiac Accounting Schedules, which were elaborately prepared by an expert accountant and extend from R. P. 1050 to R. P. 1156 inclusive. They show details and percentages which it is believed support the elaborate assignments of error made by the complainant as to damages in taking appeal to the court below.

In view, however, of the fact that neither the Masters nor the Judge of the Circuit Court, nor the Judges of the Circuit Court of Appeals, have considered the full record and the figures adduced, it is believed, in view of the complexity of the case and in view of the fact that it has not been acted upon in this way, that this court should remand the case with instructions to proceed to a consideration of the evidence and determine so far as possible profits made by the defendant due to the patented invention, and also consider the general evidence, and ascertain the complainant's loss or damage. These details are proper for a master where there is a mass of material needing attention.

In this behalf it is commented that the only unpatented grain drill comparable in grade or quality with complainant's patented drill that was on sale in or near the territory was a hoe drill manufactured by the complainant, as to which complete proofs have been adduced in the said Dowagiac Accounting Schedules.

The evidence shows that as soon as the Dowagiac shoe drill was introduced there were no unpatented shoe drills that could be sold, at any profit whatsoever or were sold. There were competing shoe drills, but all of them contained independently patented features, and none of them were of any particular account and capable of competing with

the Dowagiac drill that did not contain the Hoyt patented combination, "Dowagiac" being the name given to complainant's patented drill. Those who were disposed to consider the independently patented drills were not likely prospects for Dowagiac drills or those made in infringement thereof.

The Dowagiac drills worked perfectly and gave no cause for complaint. Dealers and farmers using the same were called in large numbers to testify as to these drills and the infringing drills and other drills to be found, and the Dowagiac drills operated so exceedingly well it seemed as though, from the testimony of any witness, that wherever the eye of the observer thereof happened to rest he seemed to think the virtues of the structure were in that particular part. Some ascribed the improvement to the shape of the shoe, others to the springs, and others to other parts. These men were not experts except that they knew when a machine operated effectively as an agricultural implement, and no one was to be found to say that the Dowagiac grain drill was not the best of its kind, considering both the infringing structures and other independently patented structures.

This general evidence should be considered by the Master and the Court. There is a great mass of it, because complainant has taken particular pains not to appear with any single theory but has proceeded on the theory that general evidence should be considered, and that when **all of the facts** are before the court it is the duty of the court to do justice between the parties and protect the innocent from the wrongdoer.

The complainant has endeavored to direct attention to the different phases of the patent law, to the question of lost sales, to the question of the value of complainant's manufacture to itself, to its superiority to other machines, to the fact that no unpatented structures were in the field, and that its

patent is an entirety, and that a limited territory required the special features,—in order to make clear to the court that equity in this case requires the recovery of the entire profits and of the entire damages. While complainant has been very confident that there ought not to be a standard of comparison, but that the recovery should be for the entire profit and damage, as stated by Judge Severens in Brennan vs. Dowagiac, yet counsel for complainant has, in his legal practice in other cases, been many times admonished that the court does not always take his view of a matter, and he has therefore provided proofs as to the only unpatented structure and full details, so that if the court is disposed to make estimates and apportion, it would have all possible proofs and be able to do so, because all **conceivable** facts are before the court.

Complainant pursued this policy in the Brennan accounting, which is reported in the case of Brennan vs. Dowagiac, 162 Fed. 472, from which this Court quoted with approval in the Westinghouse case. In the Brennan case, where there was substantially the same record as in the case here at bar, the judge of the Circuit Court reflected upon counsel for the great volume of testimony adduced. The testimony was put in so that the entire facts might appear so that the court of equity would have no excuse because of failure to show all facts, for not doing justice and making a proper reparation to the party who had suffered injustice and to punish the guilty party.

No one theory has been advanced to the exclusion of any other, so far as this case is concerned, and it is a misapprehension on the part of the court below to point out that the complainant has made one contention to the exclusion of another, because a review of the assignments of error shows that it is not in accordance with this record. Complainant is seeking justice with a complete

showing and understanding, according to the decisions of this court and the language of Judge Severens as approved by this court in the case of Brennan vs. Dowagiac, that all "of the inconvenience of confusion is thrown upon the party who produced it, and it is for him to distinguish his own property or lose it." Complainant has done all it could to present all facts that could have any bearing, to the court for its consideration, and shows that the defendant is the party who should suffer because of its wrong doing and wrongful appropriation of complainant's patent property.

As has already been commented, the Masters and the court, owing to the view that they took of the patent law and of the restrictions of the claim of the patent, failed to consider the evidence or the exceptions in any particular. The Master in the Minnesota Moline Plow case does not mention any figures except those relating to grain drills other than those of complainant or defendant. The Master in the Smith and Zimmer case mentions numbers and indicates that the figures are not considered by him because they go to and consider the profits on the entire grain drill. Damages were not considered at all.

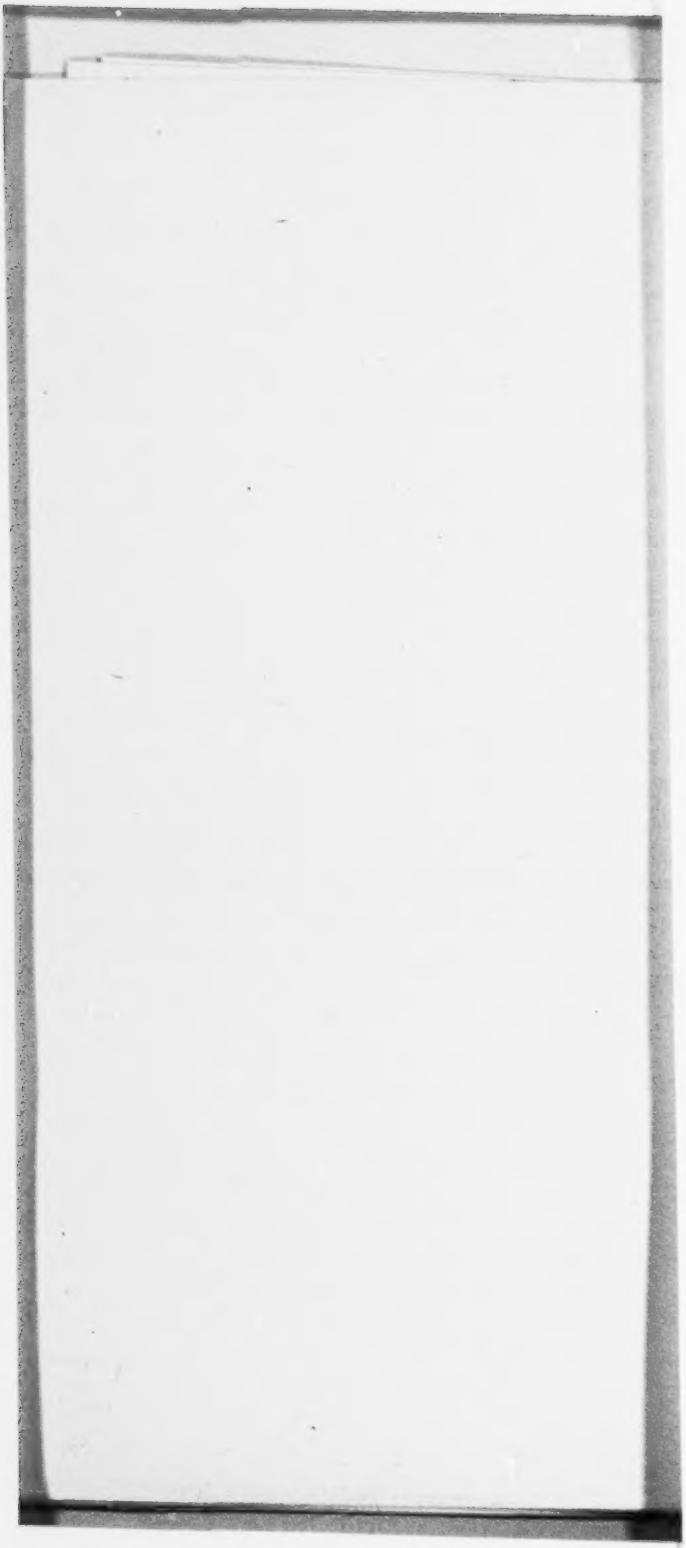
The assignments of error in the Court of Appeals pointed out figures and quantities that are based upon the voluminous record. In the assignments of error in the Minnesota Moline Plow case, at R. P. 99 it is pointed out that there should be a recovery of $11,952.92 profits, in the fifth assignment, and in the sixth assignment it is pointed out that there should be a recovery of $37,227.78 damages on 2071 machines, and that there should be a compensation because of a loss on overhead expense of $17,101.60, making a total recovery of $66,282.30. These figures are further referred to, but neither the Master nor the Court have paid any attention to the testimony in these particulars.

The assignments of error in the Smith and Zimmer case appear at R. P. 1160, and there is mentioned, in the fifth assignment, p. 1161, that there is a profit of $11,857.67, and in the sixth assignment the number of machines, 1150, is indicated, and that the profit complainant would have made on this number of machines, regarded as the proper measure of damages, amounts to $23,344.12. The figures on overhead expense were taken into consideration in the seventh assignment, and amount to $10,079.00. These matters have never been considered by the masters nor by the court, in view of the theory that the court took of the cases.

It is therefore believed that this case is parallel with the case of **Westinghouse Electric & Mfg. Co. vs. Wagner Electric & Mfg. Co., 225 U. S. 604-623, 56 L. Ed. 1222, and** that on consideration of the same, the appropriate order and decree will be, as in that case, to reverse the decree of the Court of Appeals and remand the case with directions that the case be recommitted to a master with proper instructions and directions for a new hearing on all the questions involved in the original reference and for further proceedings.

Taking this view of the case and considering that the same is substantially parallel with the Westinghouse case, it is deemed best not to discuss in detail the bearing of the evidence in the case. It is too voluminous to be handled in an appellate court, the task of reviewing and sifting the same is appropriate for a master.

This case at bar, so far as the consideration by the court or the master both as to profits and damages is concerned, is apparently quite parallel with the case of **Elizabeth vs. Pavement Co., 97 U. S. 127, 24 L. Ed. 1002,** specifically mentioned under the heading "(c)" in the Westinghouse Electric case. This view was advanced before the court in the case of **Dowagiac vs. Brennan, 162 Red. Rep.**



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472, and was further advanced in the case at bar.

A comparative chart showing the precise parallel of the two cases was prepared in the Brennan case, and was submitted to the court in the case here at bar, and it is here submitted, as it seems to counsel to be little less than a demonstration of the parallel character of the two cases.

The grain drill patents following the illustration from Fig. 1 of the patent in suit are grain drills of the prior art. The more pertinent of these, viz, that of the Packham grain drill and of the Ashurst grain drill, are in the record now before this court, the Packham patent appearing at R. P. 1237 and the Ashurst at R. P. 1223. The other structures are rather less pertinent and will be found in the record in the main case below, but unfortunately are not included in the record here. The chart is inserted as a folder in the brief, so that this court may understand precisely the position, on this important item, that petitioner insists it is entitled to recover the entire profits and the entire damage without apportionment. This was the finding of the Court of Appeals for the Sixth Circuit on this showing, and it is believed that the finding of the Court of Appeals for the Sixth Circuit is right; that is, that complainant's patent is to an entirety.

Additional authorities in support of this proposition are as follows:

Crosby Valve Co. vs. Safety Valve Co., 141 U. S. 453;
Hurlbut vs. Schillinger, 130 U. S. 472;
Rose vs. Hirsch, 94 Fed. Rep. 177, 51 L. R. A. 801;
Warren vs. Keep, 155 U. S. 268;
Coddington vs. Proffe, 122 Fed. Rep. 1016;
Regina Music Box Co. vs. Otto, 114 **Fed. Rep. 505;**

Holmes, et at. vs. Truman, 67 Fed. Rep. 542; 14 C. C. A. 517;
National Folding Box & Paper Co. vs. Elsas, 86 Fed. 918; 30 C. C. A. 487.

This latter case relates to a recovery on the Ritter patent No. 171,866, for an improved paper box. The third papagraph of the syllabus reads as follows:

> "Where the infringement is of an entire new article of manufacture, the entire profits of which are attributable to the patented improvement, and where the measure of damages is necessarily determined by the losses of the complainant in the sales, the **damages based upon a loss of the complainant's profit are not to be reduced** by the deduction of a **'manufacturer's profit.'** "

At page 488 the Court remarks:

> "There was no other box of the kind in the market when it was **first introduced,** and it has gone into very extensive use."

This case is particularly pertinent and it states the principle as to the recovery of damages, which it is believed should be upheld by this court in this case here at bar, the circumstances of the two cases being so nearly parallel.

There were only independently patented structures on sale in the particular territory, and there was no need for any estimate or apportionment of profits or damages on that account.

The rule in Elizabeth vs. Pavement Co. here applies, except that there was no unpatented structure on sale in the territory. The respondent-defendant called expert witnesses to testify relative

to certain prior expired patents, but it was responded that these structures were not in use and did not furnish any foundation on which the Hoyt patent in suit was built. That independently patented structures should not be considered as a standard for comparison, appears from the following authorities, **Turrell vs. Illinois Central Railroad Co.,** 20 Fed. 913, a decision by Mr. Justice Harlan when at circuit, which finding was affirmed by the Supreme Court of the United States in **Illinois Central Railroad Co. vs. Turrell,** 4 S. C. Reporter 5.

This matter of an independent patent is also touched upon in the case of **McCreary vs. Canal, 141 U. S. 459,** Bk. 35 L. Ed. 816. The court said, at page 820, considering the control of a patented structure by a third person,—

> "In such case it might perhaps be held that the plaintiff was entitled to stand upon the prima facie validity of the earlier patent, and **that persumptively the defendant would be bound to pay a royalty to the patentee, and, having elected to make use of the plaintiff's invention, would be bound to pay a like royalty to him."**

The matter was specially considered in **Brinton vs. Paxton,** 67 C. C. A. 204, 134 Fed. 78, where McCreary vs. Canal Co. is referred to and followed, and there are, of course, the decisions by the United States Circuit Court of Appeals for the Eighth Circuit which were overruled by the court below in this case at bar.

A Standard of Comparison.

The petitioner-complainant is very confident that under the ruling of the Court of Appeals for the Eighth Circuit, considering the case of **Eliza-**

beth vs. The Pavement Co., supra, there should not be required a standard of comparison. A standard of comparison should not be something conjectural. Counsel, however, observing that caution is often the better part of valor, and notwithstanding a firm belief to the contrary, has adduced in evidence proofs as to an unpatented hoe drill of same grade and quality as the shoe drill made under the Hoyt patent here in suit. This was gone into thoroughly by the expert in the Dowagiac Accounting Schedules, R. P. 1053 to 1157, inclusive, along with the other items worked out in the said schedules. This fact has been wholly disregarded by the Masters and by the Circuit Court and the Circuit Court of Appeals in consideration of this case, and it is urged that the same should receive attention, and that such attention should be directed by a decree and order of this court.

General Evidence must Necessarily be Considered.

Suffolk vs. Hayden, 3 Wall. 315; and
McKeever vs. United States, 14 Brodix, 414.

the latter being a decision of the Supreme Court of the United States, not reported except in 23 O. G. 1528 and 14 Brodix, 414. It is noted that Mr. Chief Justice Waite delivered the opinion of the court:—

> "This judgment is affirmed. No further opinion will be delivered."

That case in the court below pointed out a method of figuring and calculating to determine the proper compensation under special circumstances, to ascertain what would be reasonable compensation under all the circumstances to the complainant.

This court said in **Suffolk vs. Hayden, 3 Wall. 315,** at page 319, in the next to the last paragraph of the decision,—

> "This question of damages, under the rule given in the statute, is always attended with difficulty and embarrassment both to the court and jury. **There being no established patent or license fee in the case,** in order to get at a fair measure of damages, or even an approximation to it, **general evidence must necessarily be resorted to.** And what evidence could be more appropriate and pertinent than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise of a sound judgment, to ascertain the damages, or, in other words, the loss of the patentee or owner, by the piracy, instead of the purchase of the use of the invention."

In **McKeever vs. United States,** 14 Brodix 414, a proper method of procedure is indicated in the decision of the Court of Claims, which met with the approval of the Supreme Court, and in that case the Court of Claims commented,—

> "It is apparent that the claimant has produced about all the evidence that the nature of his case admits of, and it is noticed that the defendants have introduced no evidence whatever to controvert it."

and refers with approval to the case of Suffolk vs. Hayden, supra, see p. 425 of the Brodix report.

The defendants in the case at bar have confused the profit. The general testimony adduced by the complainant must be considered in order to reach a proper conclusion, and to do justice between the parties.

The record on the Accounting.

The record on the accounting has been duly certified here and embraces the proofs in both cases. It constitutes two quite bulky volumes and all told, amounts to about 1400 pages. In this testimony, a part is expert testimony, a part is the testimony of witnesses as to the conditions in the territory where the Dowagiac machines were marketed, and another considerable part is the testimony of users and dealers in grain drills in the territory. Under the erroneous view taken of the matter by all of the judges and Masters, this testimony has received no particular consideration, further than to result in the assertion that the complainant did not apportion between patented and unpatented features, either as to profits or damages, and the assertion that the burden was on the complainant, thus ruling contrary to the Court of Appeals in the Sixth Circuit in the case of Dowagiac vs. Brennan, supra, which said there was no need for such an apportionment in the case of a combination claim constituting an entire machine.

The testimony briefly scheduled to indicate its substance and bearing is as follows:

Testimony Scheduled.

Scheduling the testimony in the order in which it is printed, the same begins with complainant's record in the Minnesota Moline Plow case at R. P.

126. Stipulations introduced substantial parts of the record in the case of Dowagiac vs. Brennan and Dowagiac vs. McSherry.

Witness Fred W. Hart was called by complainant as an expert, and testified, R. P. 132, as to the schedules and certain items which he had reviewed of the Minnesota Moline Plow Company's books and accounts. His schedules are complete and unquestioned in the case, and could be readily referred to in consideration of the matter by the master. Hart's is the usual expert accountant testimony.

Mr. A .C. Barber, R. P. 139, was called, being the manager of the defendant, the Minnesota Moline Plow Company, and identified and explained certain transactions of that company.

Otto Schmalzried, R. P. 142, the bookkeeper of the complainant company, furnished a list of complainant's customers complete, indicating their post-office addresses. This shows the restricted territory supplied by the complainant. A complete list of the dealers appears at R. P. 146-149.

Sylvester C. Swayne, a Dowagiac agent, R. P. 151, testified to the direct competition of the infringing structures.

Charles L. Fowle, the general sales manager of complainant, testified, R. P. 157, to direct competition of the infringing grain drills and as to other grain drills referred to as having been independently patented.

William H. Taylor, R. P. 167, testified as to certain relations between the Minnesota Moline Plow Company and the McSherry Company, and that the McSherry infringing drill was sought because it was like the Dowagiac.

A stipulation at R. P. 173 shows the total percentage of profit of the Minnesota Moline Plow Company, affording a basis of estimate of its entire profits on grain drills.

The Brennan record is introduced from R. P.

175 to R. P. 390, being a part of the record that was submitted in the case of Dowagiac vs. Brennan, decided in the Sixth Circuit.

In this Brennan record appears the testimony of W. G. Munn, an officer of the Brennan Company, and one of the defendants in that case, R. P. 186, who testified as to certain negotiations to obtain the business for the infringing drills from the Dowagiac Company.

George H. McVicker, R. P. 208, made complete schedules of complainant's business, showing costs, selling expense, lists of complainant's drills, and full items as to profits made by this complainant in the business of manufacturing and selling grain drills under the patent in suit. His testimony also includes the extensive schedules from R. P. 1053 to 1157, labeled **The Dowagiac Accounting Schedules.**

Will F. Hoyt's deposition extends from R. P. 239 to 255, and explains fully the relations of the items considered by the said McVicker. Otto Schmalzried, the bookkeeper of complainant company, supplemented this testimony.

The witnesses Retzlaff, Jones, Worner and Jennings, R. P. 263 to 286, were called in the Brennan case to testify as to certain facts with regard to selling conditions, all being men that were actually in the field.

Mr. C. C. Webber, R. P. 302, was called to testify as to having secured business from the complainant by soliciting and importuning their agents.

Fred W. Hart, R. P. 321, was called as an expert accountant.

Mr. Fowle, R. P. 352, testified as to his belief as to certain requirements for the most equitable way of estimating the profits of complainant.

Mr. Schmalzried, R. P. 373, gave further testimony as bookkeeper, and Mr. Margeson, R. P. 377, gave certain statements as to data and calculations appearing in the accounting schedules.

There then follows schedules at R. P. 393-396, in the Smith & Zimmer case, produced and properly identified by experts, and the Smith & Zimmer record.

Mr. Zimmer's testimony is at R. P. 396, and he was examined relative to the books of the Smith & Zimmer Company.

Fred W. Hart, the expert accountant, identified the various schedules in this Smith & Zimmer case, R. P. 402.

S. C. Swayne, a Dowagiac agent, testified as to the direct competition of the infringing grain drills, R. P. 407.

The defendant Smith, R. P. 409, offered to substitute the Smith & Zimmer Company for Smith & Zimmer, copartners.

Charles L. Fowle, sales manager of the Dowagiac Company, testified, R. P. 414, in the Smith & Zimmer case, showing dealers contracts and stating that in his judgment the complainant would have sold the drills sold by the defendants.

There is a stipulation at R. P. 418 that the Brennan record, which has already been referred to, might be used in the Smith & Zimmer case.

The complete schedules in the Smith & Zimmer accounting appear from R. P. 420 to 429, and show fully the figures and conditions.

There then follows the defendant's record on accounting in the Minnesota Moline Plow case, beginning at R. P. 429. From pages 431 to 749 inclusive, the testimony is made up largely of testimony of dealers and farmers handling grain drills, who attempted to ascribe the success of the Dowagiac drill to special features, indicating as a consequence that every part of the grain drill worked perfectly when organized as a complete whole under the Hoyt patent in suit, so that whichever part the witness happened to observe he thought was doing the work for all the rest.

Frank R. Packham testified at R. P. 517, and admitted the defects of the Packham shoe drill, and that he obviated the same by the structure appearing in the independently patented disk drill.

Clarence Pattison, who was at one time a subordinate of the complainant company, testified at R. P. 812. This testimony was wiped out by the testimony of Mr. Fowle.

These witnesses of the defendant, it is submitted, are without force. None of them are experts and their testimony is without weight except that it shows that the Dowagiac drill was a perfect working machine.

Oscar W. Bond, R. P. 749, was called as an expert by the Minnesota Moline Plow Company. He knew nothing about grain drills in the territory. He referred to a long list of expired patents, appearing in the record from page 1176 to 1347, which, however, show nothing that he knew of as being in use during the period of infringement, showing nothing that he knew the cost of, showing nothing he could testify about, except that in his opinion certain things would do thus and so, indicating an imagination rather over-worked in this line, in view of his lack of practical knowledge on the subject. His testimony is opinion testimony and amounts merely to conjecture as to whether or not a thing could be profitably manufactured, and such slimsy evidence is of no avail on the question of apportioning profits and damages in a patent accounting. The fact that these structures of the prior art were not manufactured and available in the territory negatives his conclusions.

The circumstances call for positive evidence as to things in existence which are being manufactured and sold, so that there is something tangible to take hold of. No such things are provided by proofs of this character.

These prior patents were not proper to be con-

sidered on the question of infringement. None of them were considered near enough to the patent in suit to call for any comparison on the question of infringement, and why they should be brought in at the accounting stage to call for some apportionment is impossible to understand. None of them were in use during the infringing period and none of them are of any consequence. The prior art has always been exhaustively investigated and considered on the question of infringement, and none of these structures were considered.

The whole testimony, so far as shoe grain drills are concerned, is disposed of by the testimony of complainant's sales agent, Mr. Fowle, who said that no grain drill construction along these lines, that is, without a spring pressure comparable with the Dowagiac, could be sold at a profit in the territory. All that were sold there were either infringements or independently patented structures. This shows conclusively the fact that the Dowagiac shoe grain drill made under the patent in suit was an entirety.

It is not believed that the testimony need be more specifically considered. Its general substance is here indicated, and it should be carefully reviewed by the master, and is too bulky to be taken up in detail by this court. Such work as this is proper subject for a master in chancery.

Westinghouse vs. Wagner, 225 U. S. 604-623, 56 L. Ed. 1222.

This case was also brought by writ of certiorari from the Circuit Court of Appeals for the Eighth Judicial Circuit, and apparently on a proposition relating to accounting of profits made by the defendant as distinguished from the damage or loss suffered by the complainant. The cases are on all fours and the decision in that case, as in this case, was due to the same error by the Court of Appeals for the Eighth Circuit.

In Westinghouse vs. Wagner there was an

element consisting of an improvement added by the defendant, and when the value of it is shown definitely as material, the burden may shift to the complainant. There is no such contingency whatever in this case at bar.

On the question of damages, the case of Westinghouse vs. Wagner controls by analogy, so far as the matter of apportioning the amount between the patented and unpatented features is concerned; that is, the complainant is entitled to a full recovery because the patent is to an entirety.

The complainant in the case at bar, however, had certain patents of its own, and as to these it made apportionment in figuring or calculating the complainant's profits on the machines of its own manufacture and sale.

In the Westinghouse case the large profit was sufficient, apparently, but in the case at bar the profits made by the defendants, owing to cut prices and extravagant methods, are so inconsiderable that it seems proper and just that the complainant should recover damage in addition thereto. The defendants invaded the territory of complainant and solicited the customers of complainant at reduced prices and sacrifice of freight rates, and did various other things to push its goods into the market created by the complainant for its goods. Further than that, the grain drills made under the patent in suit were especially available to meet the special conditions of the Northwest, and this availability urged the defendants to infringe and compete.

In recovery of this kind, where the complainant's business is directly interfered with, the fixed expenses are increased to the complainant on a smaller amount of business, whereas if complainant were not interfered with, the fixed expenses, such as salaries, rents and the like, would not be increased, nor the expense of superintendence, nor

the expense of sales, so that in addition to what the complainant would have made on its goods, selling them pro rata, this item should be taken into consideration by the master and the court in estimating the complainant's losses and damage due to direct competition with its business. None of these questions are raised in Westinghouse vs. Wagner. It is urged that they are all pertinent to be considered in the case at bar.

Conclusion.

In conclusion we desire to submit:

First: That the invention of the patent in suit is an invention of high order, that it solved a special problem for a special territory, and was a marked step of advance in the art. It was not to a mere improvement or perfection of what had gone before, but was to a combination constituting the machine as an entirety, a true combination in which no one element dominated any others. Under such circumstances the recovery of both profits and damages should be on the entire structure.

Second: That where the profits are inadequate to compensate the complainant for its losses, the same should be supplemented by damages, and that in the estimate of damages the fact that a restricted territory has been supplied by the complainant, with a machine especially adapted to certain purposes and conditions, should be taken into consideration. There should also be taken into consideration that there were no unpatented grain drills of the same class and substantially only independently patented machines on sale in the territory in competition, and that the complainant was able to supply the whole demand.

Third: That in the event of an apportionment of profits and damages, no unpatented structure that was not actually being manufactured and sold

was proper to be considered as a standard of comparison, because the cost of the same, the selling price of same, the cost of selling the same, and the consequent profit, are all unknown quantities and mere matters of conjecture.

Fourth: That in the event a standard of comparison is required, the petitioner-complainant herein has supplied the same by affording full proofs as to the cost of manufacture, selling costs and prices received, on drills of practically the same quality of its own manufacture, the figures as to which are not in any way questioned.

Fifth: That in determining the matter of damages in circumstances of this kind, to use the language of this court in case of Suffolk vs. Hayden, supra, **general evidence must be resorted to,** taking into consideration all that has occurred relevant to the subject in hand, and that taking the whole subject into consideration it is the duty of the court to do justice between the parties and protect the innocent from the wrongdoer.

Sixth: That the rule laid down by the United States Circuit Court of Appeals for the Sixth Circuit in Dowagiac vs. Brennan, supra, is applicable to this case, and requires the awarding of full profits and full damages.

Seventh: That the rule of law laid down in Garretson vs. Clark is not applicable to this case.

Eighth: That the petitioner is entitled to recover in the Minnesota Moline case:

Defendant's profits on infringing machines	$11,952.92
Complainant's damages (the profit on sales lost to complainant)	37,227.78
Loss on overhead expense to complainant	17,101.60
Total	$66,282.30

in the Smith & Zimmer case:

Defendants' profits on infringing machines	$11,857.67
Complainant's damages (the profits on sales lost to complainant)	23,344.12
Loss on overhead expense to complainant	10,079.00
Total	$45,280.79

Petitioner therefore prays this Honorable Court that the decree of the Court below may be reversed, and that it may be ordered to enter a decree against respondents and in favor of your petitioner in the Minnesota Moline Plow case for the sum of $66,282.30, with interest at 6 per cent. from September 20, 1906, the date of the Master's report, and in the Smith & Zimmer case for the sum of $45,280.79, with interest at 6 per cent. from September 22, 1906, the date of the Master's report; or the case should be remanded with instructions to proceed according to the law already laid down by this court in Westinghouse vs. Wagner, and in Suffolk vs. Hayden, and in other cases herein referred to.

FRED L. CHAPPELL,
Counsel for Petitioner.

March 10, 1913.

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, A. D. 1912.

DOWAGIAC MANUFACTURING COMPANY, *Petitioner,*
vs.
MINNESOTA MOLINE PLOW COMPANY et al., *Respondents.* } No. 212.

DOWAGIAC MANUFACTURING COMPANY, *Petitioner,*
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER, *Respondents.* } No. 213.

BRIEF AND ARGUMENT FOR RESPONDENTS.

May it please the Court:

The above case, and another by the same complainant and involving the same questions, were brought to this court on writs of certiorari to the United States Circuit Court of Appeals for the Eighth Circuit issued on the petition of the Dowagiac Company. The petition alleged as ground for the writ that the Circuit Court of Appeals in the Sixth and Eighth Circuits had reached conflicting conclusions in reference to the law applicable to substantially the same state of facts, or, as alleged in the petition, that the court in the Eighth Circuit had "specifically overruled" the court in the Sixth Circuit.

We think a consideration of the difference in the facts before the courts in the two cases will refute this allegation, but of this in its proper place.

Present Controversy.

This was an inquiry to determine how much, if anything, the complainant was entitled to recover from the defendants, either as profits or damages, by reason of the infringement of the first, second and third claims of letters patent of the United States, No. 446,230, issued February 10, 1891, to W. F. Hoyt, and owned by the complainant.

The particular invention called for in these claims has relation to the means employed for imparting the desired pressure to the shoes of shoe drills so that they will sufficiently enter the ground. These means, briefly described and construed in the broadest manner, consist of two long spring rods pivotally attached at their front ends to the draft-rods which pull the shoe furrow-openers along and which have a bearing against the draft-rods so as to afford a fulcrum, and which pass back on each side of the boot or hopper of the shoe, which is provided with a rim at the top, and are connected to a forked rod attached to an arm on a rock shaft, oscillated by a lever, so that pressure can be applied to the shoe furrow-openers by forcing the ends of the spring rods down, and so that the shoes can be lifted from the ground by raising the ends of the spring rods up, and so that by adjusting the lever on the rock shaft to different positions the pressure on the shoes can be varied and regulated. The invention of the first, second and third claims of the Hoyt patent centers around the spring pressure device, and the patent claims it, the spring pressure device, in combination with some of the other old and well known parts of a shoe grain drill. We

(No Model.) 2 Sheets—Sheet 1.

W. F. HOYT.

GRAIN DRILL.

No. 446,230. Patented Feb. 10, 1891.

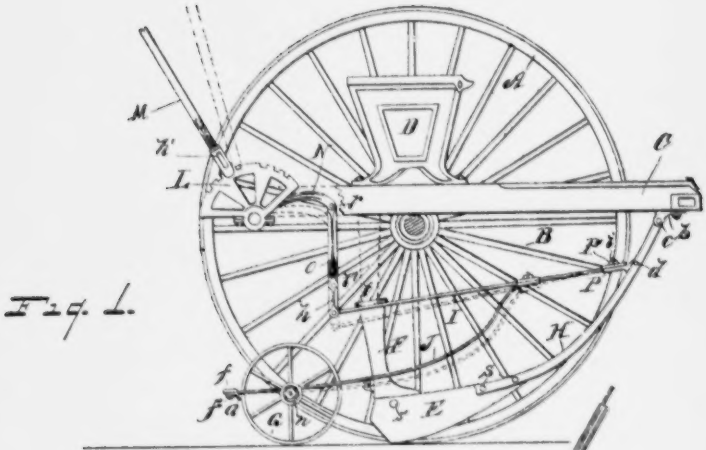


Fig. 1.

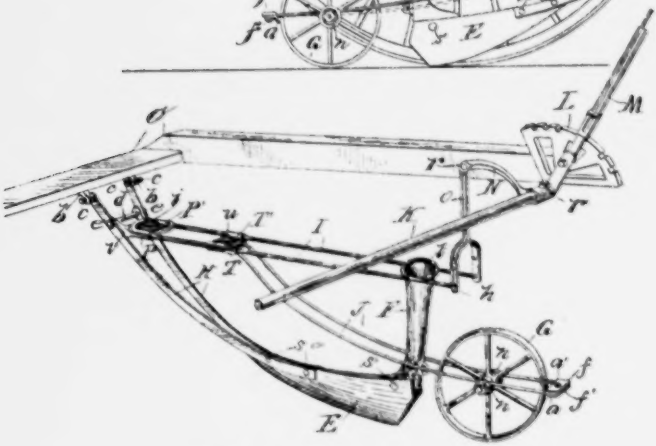
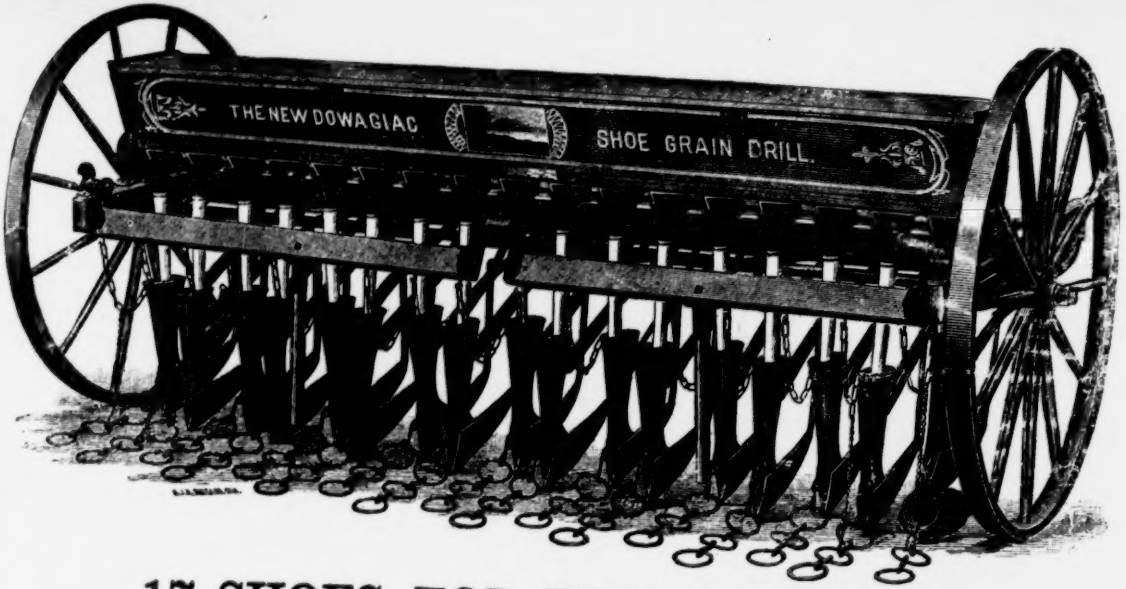


Fig. 2.

Drawings of Hoyt patent sued on.



17 SHOES, FOR THREE HORSES.

Complainant's Dowagiac 1888 Shoe Drills which, among others, Hoyt improved by adding his spring pressure device.

here reproduce Figs. 1 and 2 of the Hoyt patent which show the spring rods indicated by the reference letter I, as shown at page 1175 of the Record.

The claims found to be have been infringed by the defendants in these cases read as follows:

> "1. In combination with the transporting wheels and frame, the hopper, shoe, and draft-rods, the latter having a pivotal connection with the frame, the clamping plates having a pivotal connection with the draft-rods, the spring-metal pressure-rods attached to said plates, said rods extending rearwardly of the hopper, the forked arm coupled to said rods, and means for raising and lowering said arm, substantially as specified.
>
> "2. In combination with a frame of a grain drill, the hopper having a flange at the upper end, the shoe attached to the hopper, the curved draft-rods leading from the shoe and having a pivotal connection with the frame of the machine, a swinging head located between the upper ends of the draft-rods, spring-metal rods attached to the swinging head, said rods extending back of the hopper and below the flange thereof, said spring-metal rods being coupled to an arm, said arm having means for raising and lowering it, and means for locking the parts, for the purposes set forth.
>
> "3. In combination with the frame, hopper, shoe, and draft-rods, the plates pivotally attached between the upper portions of said draft-rods, said plates having the horizontal shoulders, said shoulders bearing upon the draft-rods, the spring-metal rods attached to said plates and passing rearward of and on opposite faces of the hopper, and means for applying pressure to the rear ends of said spring-metal rods, for the purpose specified."

The above claims are drawn so as to introduce into the well-known and generally used shoe grain drills means for presumably more perfectly or efficiently applying pressure to the shoes. The patent does not claim that Mr. Hoyt invented an entirely new shoe grain drill, a complete article, distinct and different in all its parts from the shoe grain drills that

were in use. Mr. Hoyt simply, at the most, and in the most liberal view that has been taken of his patents by the courts, invented a new and useful improved *spring pressure* device to be used *in* and as a *part* of the established shoe grain drill. Mr. Hoyt's patent is not for a shoe grain drill, *per se,* but for *improvements* upon and relating to such grain drill. The opening clause of his specification says this when it says that:

> "This invention relates to new and useful *improvements* in grain drills commonly known as shoe drills; and it consists in a certain construction and arrangement of parts as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims."

Many prior patents in evidence show various forms of pressure devices for shoe drills, some emphasizing one feature and some another, and all used in connection with the main parts of the drill enumerated in the Hoyt claims. One common prior form of pressure device was the coiled spring, which continued in use during the entire life of the Hoyt patent, and was in use on tens of thousands of shoe grain drills at the date of its expiration. One of these—and there were others—was the Van Brunt *non-infringing* coil spring shoe pressure drills, that preceded Hoyt, and that was in constant and successful competition with the Hoyt drills in the Northwest, where the Hoyt drill was claimed to be especially adapted to the soil conditions. To give at this point a general idea of the Van Brunt arrangement of coil spring pressure device we here reproduce Figs. 1 and 2 of his 1889 patent, as shown at page 1231 of the Record.

With the understanding clearly in mind that Mr. Hoyt's invention relates to "improvements *in* grain drills" and that it "consists in a certain construction and arrangement of parts," instead of an entirely *new and complete* grain drill

(No Model.) 2 Sheets—Sheet 1.

W. A. VAN BRUNT.

GRAIN DRILL.

No. 412,808. Patented Oct. 15, 1889.

Fig. 1.

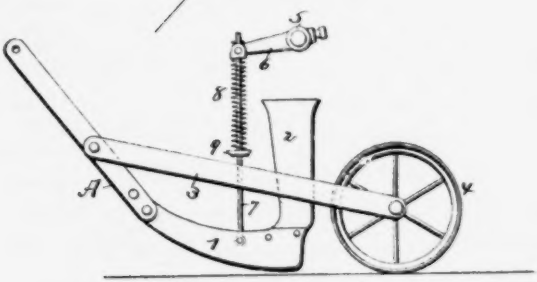
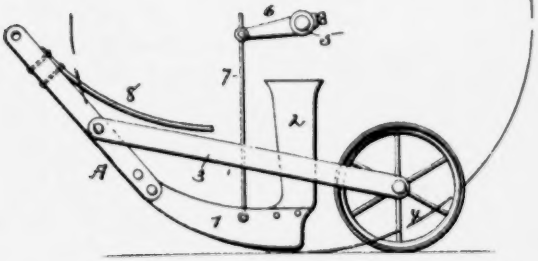


Fig. 2.



Drawings of VanBrunt 1889 Patent.

in and of itself, we are prepared to take up and consider the particular questions involved in this case.

The Master, in an unusually able and exhaustive report, beginning at page 13 of the Record, Judge Amidon in his opinion, beginning at page 89, and the Circuit Court of Appeals, Judges Hook, Adams and McPherson, in their opinion, beginning at page 1386, have all held that, as the Hoyt invention was merely an improvement on old and well known grain drills, it was incumbent on the complainant, as a prerequisite to a recovery of profits, to show how much the introduction of the Hoyt style of pressure device—the long spring-pressure rods, as distinguished from other pressure devices theretofore used—increased or added to the profits, if any, made by the defendants in the sale of their drills, or that all the profits were to be attributed to the Hoyt pressure device as being the feature that enabled them to sell their drills; and that, as no apportionment had been made or even attempted, and no sufficient evidence produced that all the profits were attributable to the presence of the Hoyt style of pressure device, the complainant was entitled to nominal damages only.

At this point we desire to call attention to the fact that no question of the applicability of the doctrine of confusion of goods or profits arises in this case, as in the Westinghouse-Wagner case, decided at the last term of this court, and reported in 225 U. S., 604, as no testimony whatever was introduced to show that the profits, if any, were inextricably commingled so that no division or apportionment was possible or practicable. The complainant simply took the broad position that owing to the form of the claim, as a combination claim, it was entitled to all, and so introduced no testimony and made no effort toward apportioning the profits due to the Hoyt form of pressure device

over other forms of pressure device or to show that an apportionment could not be made. Hence, the Westinghouse-Wagner case has no bearing on the questions presented in this case.

We desire also, at the outset of our brief, to say that there are two main grounds on which the decision of the Circuit Court of Appeals in this case must be sustained and affirmed.

First. The decision or result was right and must be affirmed, because the complainant adopted a wrong *standard of comparison* in seeking to show that the defendant had made profits.

Second. The decision was right in its understanding of the law as to the apportionment of profits and damages under the facts of the case.

In accordance with the above propositions, we shall insist that the decision of the Circuit Court of Appeals for the Eighth Circuit was right and should be affirmed under the facts applicable to *each* proposition and *both* of them, and under the facts applicable to the first proposition, irrespective of the conclusion that this court may reach as to the correctness of the decision below on the law applicable to the second proposition. In a word, an affirmance of the decision below is asked on two main substantive grounds, only the second of which the court below considered it necessary to discuss in its opinion. If we are right in our view of the case, it may not be necessary for this court to consider or decide the conflict of decisions alleged in the petition on which the writ of certiorari was granted, and so we will present our contentions in the order stated above.

First.---A Wrong Standard of Comparison was Adopted.

Irrespective of whether, when a claim is for a combination of parts, all of which are old in a similar combination but one, it is incumbent on the complainant to show the profits attributable to the addition to the old combination of the new element or not, the decision in this case was right and must be affirmed, because the complainant, in seeking to prove that the defendant made profits, adopted a *wrong standard of comparison* and made its comparison with an old and superseded type of machine instead of with the type *on sale and in active competition* with both the complainant's and the defendant's drills. This is our first broad contention, and if we are right in it, the decree below must be affirmed, and the court is relieved from looking further into the case, and from deciding as to which court—the Circuit Court of Appeals for the Sixth Circuit, or the Circuit Court of Appeals for the Eighth Circuit—is right as to the applicability of the doctrine of the apportionment of profits to combination claims, though we are satisfied the court below was right and shall discuss that question in its appropriate place and order.

Foundation Principles.

In the multitude of accountings for profits and damages that have been had in the last half century, there have been evolved by the reasoning of the courts in construing and applying the law, a number of foundation principles or doctrines that govern as to the method of ascertaining profits or damages in patent cases and the character and sufficiency of the proofs required to justify a finding of the one or the other. As complainant's counsel in this case has stated on the record that he intends to ask for both profits and damages—damages

in case they exceed the profits—we will address ourselves to the principles applicable to both these species of recovery. The principles applicable to the one are not always applicable to the other. In fact they are often dissimilar and even antagonistic.

In *Coupe* v. *Royer,* 155 U. S., 582, this court, in discussing a case at law, said:

> "There is a difference between the measure of recovery in equity and that applicable in an action at law. In equity the complainant is entitled to recover such gains and profits as have been made by the infringer from the unlawful use of the invention, and, since the act of July 8, 1870, in cases where the injury sustained by the infringement is plainly greater than the aggregate of what was made by the defendant, the complainant is entitled to recover the damages he has sustained, in addition to the profits received. At law the plaintiff is entitled to recover, as damages, compensation for the pecuniary loss he has suffered from the infringement, without regard to the question whether the defendant has gained or lost by his unlawful acts—the measure of recovery in such cases being not what the defendant has gained, but what the plaintiff has lost."

In view of the above distinction between recoveries at law and in equity, between profits and damages, we will find it convenient, in our progress through the questions and principles arising in this case, and having a bearing upon the issues presented, to take up each method of recovery and consider it by itself as far as practicable.

Can the Complainant Recover Profits in this Case?

When courts of equity began to hold the defendant liable for the profits that he had realized through the use of the patented invention, they were early confronted with the fact that in many cases the patented invention only represented *one* method, machine or device for doing the work desired,

and that other methods which were free and open to the defendant *might* have been employed by him for use or sale instead of the patented machine. They early came to the conclusion, therefore, that as the patented invention only represented *one* way of doing the work desired it would be inequitable to hold the defendant to the same measure of profits as if there had been *no other way* for him to have accomplished the purpose for which he used the patented invention, and that the patented method or device and those which were open and free to the public should be compared together to see how much the patented improvement had really *benefitted* the defendant *over* the benefits that he would have received if he had selected the methods or devices that were open to the public. This resulted in the principle or doctrine, which we will term

The Doctrine of Comparison of Profits.

Under the doctrine of comparison the courts at an early day held that a proper method of showing the amount of savings or profits realized by an infringing defendant was to consider what he had made or saved *over what he would have made* or saved by the use of other methods of doing the work open to him and which he might have used. Stated as a legal proposition, it may be thus formulated:

Where there are other machines or devices which the defendant might have made or sold in place of the patented machine or device, the complainant must make comparison between them to determine the relative profits arising from the manufacture or sale, and is to be restricted to those profits which the defendant realized in making and selling the patented machine or device over what he might have made by making and selling those which he could lawfully have made or sold.

The doctrine or principle of comparison of profits, formulated above, has been stated and re-stated over and over again in many cases, but in order that the court may have the statement of the principle in the exact language of the decisions and in the most convenient form for consideration, we will quote from two or three leading cases in which it has been announced.

In *Mowry* v. *Whitney*, 14 Wall., 651, this court, the italics being ours, in 1871, said:

> "The question to be determined in this case is, what advantage did the defendant derive from using the complainant's invention *over what he had in using other processes* then open to the public and adequate to enable him to obtain an equally beneficial result? The fruits of that advantage are his profits. They are all the benefits he derived from the existence of the Whitney invention. It is found that there were other processes by which the inherent strain caused by unequal cooling could be, and was prevented, counteracting which strain was the sole object of the complainant's invention, and a car wheel could be prepared for similar service, valuable in the market, and salable at a price not less than was obtained for those which the defendant manufactured. The inquiry then is, what was the advantage in cost, in skill required, in convenience of operation, or marketability, in bringing car wheels by Whitney's process from the condition in which they are when taken hot from the molds, to a perfected state, *over bringing them to the same state by those, other processes*, and thus rendering them equally fit for the same service. *That* advantage is the measure of profits."

In *Tilghman* v. *Proctor*, 125 U. S., 146, this court in 1887, the italics being ours, said:

> "The infringer is liable for actual, not for possible gains. The profits, therefore, which he must account for, are not those he might reasonably have made, but those which he did make, by the use of the plaintiff's invention; or, in other words, the fruits of the advantage which

he derived from the use of that invention, *over what he would have had* in using other means than open to the public and adequate to enable him to obtain an equally beneficial result. If there was no such advantage in his use of the plaintiff's invention, there can be no decree for profits, and the plaintiff's only remedy is by an action at law for damages."

The rule laid down in the above cases has been frequently followed and applied by the Supreme and Circuit Courts. The principle of it remains today unmodified, although the language in which the rule is now formulated and expressed has been somewhat changed. As originally laid down above the rule speaks of making the comparison between the patented improvement and things "open to the public." This has since been defined to include anything open to the *defendant* to use. The rule as above formulated also speaks of things which enabled the defendant "to obtain an equally beneficial result." The rule as now applied covers anything which the defendant had a right to use for the same purpose, whether the results were "equally" beneficial as the use of the patented invention or not, as one or two decisions will show.

In *McCrary* v. *Pennsylvania Canal Co.*, 141 U. S., 463, this court, the italics being ours, said:

> "There is no doubt of the general principle that, in estimating the profits the defendant has made by the use of the plaintiff's device, where such device is a mere improvement upon what was known before, and was open to the defendant to use, the plaintiff is limited to such profits as have arisen from the use of the improvement *over what the defendant might have made by the use of that or other devices without such improvements.* This is a familiar doctrine announced by this court in a number of cases. *Seymour* v. *McCormick*, 16 How., 480; *Mowry* v. *Whitney*, 14 Wall., 620; *Littlefield* v. *Perry*, 21 Wall., 205; *Elizabeth* v. *Pavement Co.*, 97 U. S., 126; *Garretson* v. *Clark*, 111 U. S., 120."

In *Manufacturing Co.* v. *Cowing*, 105 U. S., 255, this court, after quoting from the Mowry-Whitney case, the italics being ours, said:

> "If, *without* the improvement, a machine adapted to the same uses can be made which will be *valuable* in the market, and *salable*, then, as was further said in that case, the inquiry is, 'what was the advantage in cost, in skill required, in convenience of operation or marketability,' gained by the use of the patented improvement."

The above rule for ascertaining the defendant's profits by comparing them with the profits that would have resulted had machines been made or sold that did not infringe the patent, machines that lacked or were "without the improvement," to use the language of the court, has been a constant and invariable rule for fifty years or more. To show the constant and universal application of the doctrine of comparison for ascertaining profits we will quote from numerous decisions at the circuit embracing a wide range of subjects.

In *Surrell* v. *Collins*, 1 Fish. Pat. Cas., 297, Judge Ingersoll, in 1857, in charging a jury, the italics being ours, said:

> "The rule of damages is the profits which have been derived to the defendants from making moldings by means of his machines, *over any other mode which the defendants had a right to adopt*, deducting from them, as is agreed, ten per cent."

In *Goulds Mfg. Co.* v. *Cowing*, 1 Banning & A., 382, Justice Hunt, the italics being ours, in 1874, said:

> "What profit or advantage did the defendants obtain by the use of the plaintiff's improvement? What advantage did they have *that they would not have had, if they had built their machines without the improvement?*"

In *Black* v. *Munson*, 2 Banning & A., 625, Justice Hunt,

in 1877, in overruling an objection to the admission of testimony, the italics being ours, said:

"Assuming that it refers to the evidence intended to rebut the claim of damages, by showing that an equally good result was produced in the furnaces in which wet tan is burned which did not use Thompson's improvement, it comes within the principle of *Mowry* v. *Whitney*, 14 Wall., 620. What advantage did the defendants derive from using the plaintiff's improvement, *over any other furnace open to their use?*"

In *Locomotive Safety Truck Co.* v. *P. R. Co.*, 2 Fed., 679, Justice Strong, in 1880, stated and commented upon the rule in the Mowry-Whitney case, the italics being ours, as follows:

"That rule is that the measure of profits, as distinguished from damages, for which an infringer is responsible, is the aggregate of gains or savings which he has made from the use of the patented invention, *above what he could have made*, in doing the same work, from the use *of any other device* or process existing at the time, capable of accomplishing the same purpose, or attaining the same result, and free, or open, to public use.

"This rule is founded upon the soundest reason. It is only that which was previously not known—or, in other words, it is only the *addition* to human knowledge and convenience which a patentee has made—that he can be said to own. The patent laws give him an exclusive right to that *addition*, and to the advantages resulting from *it*, and to nothing more. Undoubtedly it may be a benefit to the community to have two modes of doing certain work, instead of one, both equally economical and convenient, accomplishing the same result, and each style patentable; but, as was well remarked by the Master: 'Unless a patentee can show such an absolute advantage in the use of his patent *over results which could be reached by other processes* in common and unrestricted use, there has been nothing really gained, no advance made by his invention.' In such a case, though he may maintain a monopoly over his patented machine, process or combination, and exact such *damages* as he may be able to show he has suffered from an infringer, he

> cannot claim any portion of what has been realized as *profits* in any sense owing or due to him, for the reason that the infringer *could just as well* have obtained such product, or result, *without his aid,* or the benefit of his work or ideas."

Justice Strong, after considering the state of the art and the kind of locomotive trucks with which the comparison was to be made, said:

> "It was free to be used *by the defendants.* But the complainants argue that because it was not employed by the defendants when they began to use the combination of the swinging truck with a locomotive, the comparison of advantages should be made with an engine having flanged forward driving wheels and a rigid truck. I do not assent to this view. The combination protected by the patent is not that of a swinging truck with a *particular* kind of engine, such as one having flanged forward driving wheels. It is a combination of such a truck with *any locomotive* for railroad uses."

In *Munson* v. *City of New York,* 16 Fed. Rep., 561, Judge Wallace, in 1883, said:

> "Several other methods of preserving and filing paid bonds and coupons were open to the use of the public, and the defendants are liable only for the pecuniary advantages which accrued to them by the use of the complainant's system *beyond that which would have resulted* from the use of the other systems which *they* had the right to employ in attaining the same end. These pecuniary advantages, as found by the Master, consist in economy of time and labor. If there was no saving of time and labor resulting from the use of the complainant's system, there were no profits."

In *Maier* v. *Brown,* 17 Fed., 737, Judge afterwards Justice Brown, in 1883, the italics being ours, said:

> "A proper method of estimating damages in such cases would be to take the profits made by the defendant upon one of these trunks [infringing trunks] and deduct

from them the profits upon an ordinary trunk of similar size and general description. The difference might be properly attributable to the plaintiff's invention. *Locomotive Safety Truck Co.* v. *Pennsylvania R. Co.*, 2 Fed. Rep., 677."

In *Creamer* v. *Bowers*, 35 Fed., 207, Judge Wales, in 1888, the italics being ours, said:

"The rule for estimating damages sustained by a patentee, by an infringement, varies according to the mode in which he uses his patent. Where he has fixed a royalty or license fee for the making, using or selling the patented article, the amount of such fee or royalty will be the measure of his loss, and his damages can be readily ascertained by multiplying that amount by the number of infringing articles; but if he maintains a close monopoly, and is ready and able to furnish the whole market with the patented articles, he must prove by satisfactory evidence the *advantages* gained by the infringer in the unlawful use of the patent, *over and above* the advantages which he could have derived from the use of similar articles, unpatented and open to the use of the public; or must prove the loss or falling off of his own sales in consequence of the infringement, or a loss by the compulsory reduction of prices made necessary by the competition of the infringer."

In *McMurray* v. *Emerson*, 36 Fed., 903, Judge Nelson, in 1888, the italics being ours, said:

"The jury are to award the plaintiff a sum equal to the actual damage caused by the infringement; and in forming their estimate of damages they are to consider as evidence of such damages the amount of profits or savings made by the defendant by the use of the infringing device *over what the defendant could have made* by the use of tools free and open to the public use."

In *Mosher* v. *Joyce*, 45 Fed., 206, Judge Sage, in 1891, in decreeing nominal damages only, the italics being ours, said:

"The testimony taken before the Master is that, dur-

ing the time the defendants were selling the jack which the court found to be an infringement, they sold *another* jack of the same general construction, in which a pawl lever, with pinion on it, took the place of the lifting block hinged to the lever in the infringing jack, and that this other jack was a track jack, used for the same purpose as the infringing jack; that the infringing jack was gotten up because of the trip device; and that after awhile the railroad ordered it left off, because the men did not use it properly, and the orders fell off, and defendants finally quit making it.

"It further appears in the evidence that the defendants made a little more profit on the *other* jack than they did on the infringing jack, and sold a larger number of the other jack. . . . The exceptions must be sustained, and a decree entered against the defendant for nominal damages only."

In *Hohorst* v. *Hamburg-American Packet Co.*, 91 Fed., 660, the United States Circuit Court of Appeals for the Second Circuit, Judges Wallace, Lacombe and Shipman, in 1899, where the patented net sling had been compared with herring tubs for unloading ship cargoes, in speaking of certain evidence, the italics being ours, said:

"This evidence is most important, as showing the existence of a net sling, apparently free to defendant, and certainly not within the description of the patent, which would double the speed attainable with the tubs. In proving profits, it is necessary to show a saving by the use of the infringing tool *over* the cost of operating any *other* tool which *defendant* was free to use. . . . There seems to be absolutely no proof which would warrant the court in finding that by the use of the infringing nets defendant saved any specific number of hours out of the time it would have taken to do the work with one or another of the cargo hoisting appliances available to defendant."

In *Rose* v. *Hirsch*, 91 Fed., 150, Judge Dallas, in 1898, in

considering an account for profits under a patent for umbrella sticks or rods, the italics being ours, said:

> "There is no proof of the prices at which the plaintiff sold the patented article during the period of the purchase by defendants of the infringing article; and the evidence clearly shows that, at that time, sticks which did not embody the invention, as well as those, genuine or infringing, which did embody it, were all upon the market, and were sold in competition and at inconstant and varying prices. . . . It appears from the evidence that the defendants generally purchased the *unpatented* sticks at a *less* price than that which they paid for the *infringing* articles, although they sold their umbrellas at the *same price* whether they embodied the one class of sticks or the other; and, this being so, it is *inconceivable* that by buying the infringing instead of the genuine article, they actually reaped an *advantage*. Therefore a finding that the defendants had saved anything by using the infringing rods could not have been rested upon any assured basis, and, of course, a finding of any certain amount of savings was absolutely impossible."

In *National Folding Box & Paper Co.* v. *Dayton Paper Novelty Co.*, 95 Fed., 995, Judge Taft, in 1899, the italics being ours, said:

> "It seems to me from the statements of those who were engaged in the sale of the boxes, that the only boxes which could be sold in competition with complainant's boxes were *infringing* boxes, and that all others which were offered in competition were failures. . . . If the defendant might have injured the complainant's business to a certain extent legitimately,—*i. e.*, by *lawfully* competing with it in the sale of a non-infringing box, which would deprive it of part of its profits,—the loss from infringement *would not be so great* as where the defendant could injure complainant's business *only* by sale of the infringing box."

In *Wales* v. *Waterbury Mfg. Co.*, 101 Fed., 130, the United States Circuit Court of Appeals for the Second Circuit,

Judges Wallace, Lacombe and Shipman, in 1900, the italics being ours, said:

> "We think the defendant's fifth assignment of error is well taken. This relates to the profits allowed upon certain buckles other than those of the sizes and combination sold with the pencil holders. They were sold chiefly to the garter and suspender trade, and had a short lever attached to the upper end to fasten the buckle to the strap. This was an *un*patented feature. It was also *open to the defendant* to substitute *another* base plate for that of the patented combination, and thus make a buckle which would *probably* have been as useful and as salable. In the buckles of this class the profit resulting from the sales was only such as is measured by the *difference* in value between the patented combination and others *open to use by the defendant.* That profit was not satisfactorily established by the evidence."

In *Brickill* v. *Mayer, etc. of City of New York,* 112 Fed., 71, the United States Circuit Court of Appeals for the Second Circuit, Judges Wallace, Brown and Thomas, in 1901, the italics being ours, said:

> "In estimating the saving, the defendants were charged with the difference in cost between heating by using coal with the patented apparatus and using gas for fuel with the so-called 'ring burner.' This assumes that the ring burner was the *only* practical contrivance which *could* have been resorted to. We are of the opinion that the Dinham apparatus should not have been disregarded as a standard of comparison. It was used for several months, not experimentally, but in the ordinary course of business at the engine house. It was less acceptable to the employees of the department than the patented apparatus, and they were annoyed because its use required them to keep watch upon the quantity of water in the boiler and frequently draw the water off; but we do not entertain any doubt that it supplied an efficient and practical instrumentality for heating the boilers at a cost *not greatly,* if any, more, than by the patented apparatus."

In *Penfield* v. *C. & A. Potts & Co.*, 126 Fed., 486, the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards, in 1903, the italics being ours, said:

> "Now, it is claimed for the patentees that they come under the second branch of the rule as stated, for the reason that the entire marketable value of the whole infringing machine is properly and legally attributable to the patented element. There was evidence clearly showing that there were devices for grinding, pulverizing, and even disintegrating clay which were valuable and marketable for use in certain kinds of clay, or clay in certain conditions, and that the profit in making and selling *such* machines was *approximately* as great as that derived from the sale of the Potts machine."

In *Columbia Wire Co.* v. *Kokomo Steel & Wire Co.*, 194 Fed., 110, the Circuit Court of Appeals for the Seventh Circuit, Judges Grosscup, Baker and Kohlsaat, in 1911, in considering the standard of comparison for the assessment of profits, said:

> "A manufacturer who devises a machine that he honestly believes he has a right to use, and who in an injunction suit ultimately is found to be an infringer, as was the case with appellee, is not to be mulcted in punitive damages. Equity is satisfied if he accounts for all the pecuniary benefits he derived from the use of the infringing machine. If there were no other way of obtaining the result, he might rightly be held for all the profits he made from the output of his establishment. But if, as here, other machines for doing the same work, though less effectively, were available at the date of the patent, the whole advantage would lie in the increase of efficiency. As to an infringer who at that stage of the art appropriated the invention, the standard of comparison is clear. He has taken to himself all the advantages that belonged exclusively to the patentee in the field of competition. Fifteen years later, when the art has advanced to include other non-infringing machines, available to manufacturers and more effective than those of the prior art, the patentee cannot avoid their competitive effect.

> At this stage the only actual advantage of the patented machine is its superiority, if any, over these later machines that are not dominated by the patent. If at this stage one should choose to enter upon the manufacture of barbed wire, he could take the later machines without giving the patentee any cause of action. If, however, he should adopt a machine that finally was adjudged to be an infringement, all that he would actually gain by the infringement would be the excess in effectiveness of the infringing machine over the later, available, competitive machine. To hold him accountable for more, to make him pay for the advantages of the invention over the prior art, would attribute to the patent a virtue it did not really have at the later period, would penalize the infringer simply because he was an infringer, and would mulct him in vindictive damages to the extent of the difference in effectiveness between the open prior art and the open current art."

The above cases, extending over a period of more than fifty years—from 1857 to the present time—establish the rule beyond question that in the application of the doctrine of the comparison of profits anything and everything is to be taken into consideration which the defendant has a right to use or sell and which is applicable to the same purpose, whether it is open to the "public" generally or to the *defendant* only, and whether it produces "equally" beneficial results or less beneficial results. Indeed, if the process or machine open to the defendant produce "equally" beneficial results there can be no recovery of profits because nothing would have been gained—no profits made. It is only when the machine or method open to the defendant produces *less* beneficial results that there can be any advantage or profit to recover—that there would be a balance in favor of the patented machine.

The decisions above serve to show the foundation, development and application of the doctrine of the comparison of profits as a means of ascertaining the savings or profits that

an infringer has received or enjoyed by reason of the infringement. They show that the profits which a defendant has made by the sale or use of a patented invention are to be ascertained by comparing the savings or advantages that he realized and enjoyed by the sale or use of the patented machine or device *over what he would have realized* and enjoyed by the sale or use of any other machine or device that was open to him to have sold or used during the period of the infringement.

Application of the Doctrine of Comparison.

In applying the doctrine of comparison of profits to ascertain what, if any, profits the defendant has made in a given case, the defendant is manifestly entitled to have adopted as the standard that machine or machines which, while open to the defendant to use or sell, the most nearly approaches the patented machine, or the defendant's machine, in efficiency and salability under the conditions under which the patented machine or defendant's machine is used or sold, and not the most remote in resemblance thereto.

In *Thompkins* v. *Willetts Manfg. Co.*, 34 Fed., 537, in considering a Master's report, Judge Lacombe said:

> "He has not selected a suitable standard of comparison. In order to ascertain the profit derived from the use of complainant's model, comparison should be made, not with goods of an entirely different model, but with goods of the most similar pattern, which defendant was free to use."

In *Munson* v. *City of New York*, 16 Fed., 563, Judge Wallace, in sustaining exceptions to a Master's report and in criticising the method adopted in making the comparison, said:

> "This was not only a mere arbitrary estimate, but it

> was based upon a comparison between the complainant's system and the method which most *remotely* approximated to that system of all these which the defendant had a right to employ."

In *Mast & Co.* v. *Superior Drill Co.*, 154 Fed., 53, the United States Circuit Court of Appeals, Judges Lurton, Severens and Richards, in sustaining a Master's report, said:

> "The comparison was in fact made with the *nearest* approach to the Packham invention in the market and in common use."

The defendants are entitled to a comparison with the machines which most nearly approached them in competition in their sales, and which were open to them to have dealt in, as a matter of right. If they are liable to the savings or profits made or realized by the use of the patented device over what they might have made by the sale of other free or non-infringing drills, they are, of course, entitled to have the comparison made with the nearest and not the remotest or some intermediate, approach to what they actually sold.

Nor does the standard taken as the basis of comparison need to be as good or perfect or salable as the patented machines, so long as it is practical, operative, marketable and useful for same purpose, to use the language of this court in the Mowry-Whitney and other cases, and is free for the defendants to deal in, whether it embody *all* of the latest improvements or not. If the defendants have the right to manufacture or sell any machine, even an imperfect machine, if it be useful and salable at all, and the nearest approach to the patented machine or the defendant's machine, and sold in competition therewith, then the comparison must be made with it and the principle applied in its full meaning and intent. We think the true expression of the principle is that

Any machine affords a standard of comparison which a defendant is free to make or sell and that is "adapted to the same uses, is valuable in the market and is salable," and is not "useless and unsalable at any profit after the invention was disclosed," whether such machine contains the latest and most improved details of construction and conveniences in operation or not.

This brings us to a consideration of the machines or devices that were open to the defendants in this case to have sold in place of the improvement or invention of the first three claims of the Hoyt patent sued on.

Machines Free to the Defendants to Sell.

The complainant's and defendants' witnesses established the existence of a number of shoe drills that were on the market in the Northwest, where the patented drills and the defendant's drills were sold, during the entire infringing period in which the pressure for the shoes was applied through *coil* springs instead of long rod springs, and which *the complainant admits were not infringements of the Hoyt patent.* Many thousands of these shoe drills were sold in the Northwest Territory, where it is claimed that the Hoyt improvement was specially desirable. They were sold in competition with the Dowagiac drills, the McSherry drills, and all the other drills containing the Hoyt invention, as construed by the courts. The evidence in relation to these competing drills will be found in the depositions of all of the witnesses for the defendants, with the exception of the depositions of Mr. Allen and Mr. Bond, and in the depositions of many of the witnesses for the complainant.

The Van Brunt Company, between the years 1889 and 1903, sold 23,594 coil spring pressure drills, and the Superior Com-

pany sold 9,089 from 1889 to 1902, making 32,683 of these coil spring pressure drills sold, beginning with the year 1889, and ending with the year 1902, as to one company, and 1903 as to the other. In addition to these coil spring drills, the Stoddard Manufacturing Company, of Dayton, Ohio, from 1889 to 1901 sold 18,326 press shoe drills. (Original Record, 256.) There were thus sold by these three companies alone, 51,009 shoe drills, beginning with 1889 and ending with 1901, as to one company, 1902 as to another, and 1903 as to the third. During the infringing period, from 1896 to 1902, there were sold 13,838 Van Brunt coil spring drills; 1,456 Superior shoe drills; 7,833 Havana press shoe drills, making 23,127 shoe drills of different kinds sold by these three companies alone from 1896 to 1902; and most of these drills were sold in the Northwest Territory. This takes no account of the Tiger, the Fountain City, the Monitor, and the other shoe drills having coil spring pressure devices that were sold during the period of the infringement. These facts are established in the depositions *of more than forty witnesses*, and their testimony is indisputable. In fact, the existence and sale of these drills are admitted on the part of the complainant's witnesses.

Mr. Fowle, the manager of the sales department of the complainant company, was asked on page 160 to name the shoe drills that were sold in the Northwest during the period covered by the accounting, which *were* infringements of the Hoyt patent, and those which were *not*. In answer he named the *in*fringing and *non*-infringing drills, as follows:

> "Those which have been held to infringe: McSherry, Cassopolis, Kentucky, Richmond, Champion, Buckeye, Peoria. I recall no others at present. Those which were in competition since 1894 and not held to infringe, not litigated, and some of which had coil wire spring pressure, or some other pressure device, of importance in competition, about in the order named, were the Van Brunt, Su-

perior, Tiger (built by Rowell Co., Beaver Dam, Wis.), the Fountain City, Monitor, and Havana, if the latter is considered a shoe drill. It has a shoe, but in trade circles is distinguished as a press drill. There were some others of less importance in competition—the Ashurst press drill, which was similar to the Havana, being one of them."

In order to bring out more clearly the distinctive *kind* of spring pressure that was used on the non-infringing drills enumerated above, we asked Mr. Fowle, on page 160:

"X-Q. 9. Most of those that you have named beginning with the Van Brunt, I believe were provided with coil spring pressure for the shoes. Is that correct?
"A. Yes."

To show that no suits had ever been commenced against the manufacturers of these drills, we asked Mr. Fowle:

"X-Q. 10. No suit, I believe, has ever been commenced under the Hoyt patent sued on in this case against manufacturers of shoe drills that had coil spring pressure devices for the shoes. Is that correcct?
"A. That is correct."

In the next cross-question Mr. Fowle was asked if any claim had ever been made that machines containing these coil spring pressure devices infringed the Hoyt patent, and he mentioned one peculiar structure which, notwithstanding it used a coil spring, he thought was an infringement of the Hoyt patent if rightly construed, and that he had so claimed to the manufacturers. We then asked him:

"X-Q. 12. You have in your last answer mentioned a special construction in which a coil spring was used which was thought infringed the Hoyt patent sued on? Does that apply to the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, or the Ashurst drills?
"A. No, to none of them."

It thus appears that during the period of the infringement there were in competition with the complainant's drill and with the defendants' drills, a number of others known as the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, and the Ashurst shoe drills; that none of the manufacturers of these drills were ever sued under the Hoyt patent; and that no claim was ever made by the complainant that their drills containing *coil* spring pressure devices were an infringement of the Hoyt patent. Stated as a fact, we can say that,

Beginning with 1889 and ending with 1903, the evidence shows that there were sold more than 50,000 shoe drills by three manufacturers alone; that there were a number of other manufacturers making and selling shoe drills; that these drills were sold largely in the Northwest; and that none of them were an infringement of the Hoyt patent sued on.

Clearly, therefore, the manufacturers of these various drills had the full, free and undisputed *right* to manufacture and sell them in competition with the complainant's drills, and they were *free* for the defendants, as merchants dealing in drills, to have *bought and sold* instead of the infringing drills, so that in *this* case the question of profits involves the inquiry as to how much the defendants made by buying and selling the infringing drills over what they would have made if they had bought and sold the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, the Ashurst, and other non-infringing coil spring shoe pressure drills. That is the real and final question.

The Distinction Between a Manufacturer and a Merchant.

At this point it is important to draw a clear distinction between a *manufacturer* of an infringing machine or device and a *dealer* or jobber buying from the manufacturer and selling again. The distinction between the manufacturer and the dealer in determining their liability is well recognized by the courts, and in the nature of things must be.

In *Kissinger-Iron Co.* v. *Bradford Belting Co.*, 123 Fed., 93, the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards, in 1903, where the defendants were *dealers* and not manufacturers and where the complainant sought to recover the *manufacturer's* profits as well as the dealers on the ground that they were joint tort feasors, said:

> "The defendants were not themselves the manufacturers of the coupler, but bought them from Gerard & Lawrence, who bought the shells and wedges from others and made the completed coupler, and then sold to defendant at a profit. Defendants are liable to account for such gains and profits only as accrued to themselves, and not for those which accrued to the manufacturers from whom they bought. *Elizabeth* v. *Pavement Co.*, 97 U. S., 126, 138, 24 L. Ed., 1000; *Root* v. *Railway Co.*, 105 U. S., 189, 202, *et seq.*, 269, L. Ed., 975; *Tilghman* v. *Proctor*, 125 U. S., 344, 146, 148, 8 Sup. Ct. 894, 31 L. Ed. 664; *Cupe* v. *Royer*, 155 U. S. 565, 582, 15 Sup. Ct. 199, 39 L. Ed. 263; *Belknap* v. *Schild*, 161 U. S. 11, 25, 16 Sup. Ct. 443, 409 L. Ed., 599. No partnership or other such relation existed between defendants and Gerard & Lawrence as to make them accountable for the gains and profits of the latter. Defendants had the exclusive right to the sale of the device made by Gerard & Lawrence, but were to pay a fixed price for each coupler, and realize for themselves whatever profit should result from sales."

The pertinence and importance of the above distinction grows out of the contention on the part of the complainant that the machines, with which the defendants claim that the comparison should be made, are, as the complainant insists, "patented" machines, that is, machines which have in their construction various patented devices or features which the defendants would have infringed if they had *manufactured* or sold the machines *without license*. To meet this contention the defendants in *this* case do not have to show that the machines with which they insist the comparison should be made are *un*patented machines, or that the patents covering the various devices and appliances contained in them have expired, but simply that *they* had the right to sell them. As the defendants were *merchants* buying and selling machines, they are under no necessity of showing either that *they* could have *manufactured* the machines themselves, or that the manufacturers *from* whom they purchased the *infringing* machines for which they are sued, could have made them. All that they need to do is to show that the parties *who did manufacture* the machines set up by them *as the standards* of comparison were the *owners* of the patents named by the complainant as covering various features and devices in them, and that they *could have bought the machines*, relied on as the standards of comparison and containing the inventions of the alleged patents, from the *rightful* manufacturers, instead of having bought and sold the infringing machines.

As to this, there is no dispute. It is conceded in the plainest and most unequivocal terms by Mr. Fowle, the complainant's sales manager. On page 160 we asked him:

> "X-Q. 13. Did not the makers of the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, and the Ashurst shoe drill make and sell them freely throughout the Northwest without let or hindrance and to whoever wanted to buy *and had the price?*
>
> "A. Yes, so far as I know.

"X-Q. 14. By the Northwest I have had reference to the territory comprising the States of Wisconsin, Minnesota, the Dakotas and Western Canada. Have you so understood me?

"A. Yes."

Here, then, it is admitted that the defendants *might* have dealt in these various kinds of non-infringing coil spring pressure drills in place of the infringing ones. The makers of them sold them freely throughout the Northwest to "whoever wanted to buy and had the price." They sold them without let or hindrance. They were, therefore, *free* for the defendants to have bought and sold and dealt in, in place and instead of the infringing drills. To show that the Van Brunt people, and the Superior people, and the Fountain City people, and the others had patents covering some of the features of construction that they employed in their drills, in no way prevented the defendants from buying them from their *respective manufacturers*, who were lawfully making them, and then selling them in their character of *merchants* dealing in drills. The existence of the patents, therefore, is a circumstance entirely immaterial to the availability of these coil spring drills as standards of comparison. There is thus established the fact that,

During the infringing period the defendants and their customers could have bought and sold and dealt in the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, and other non-infringing coiled spring pressure shoe drills, which were adapted to the uses that the infringing drills were, which were valuable in the market and salable in the Northwest, and which other manufacturers "made and sold freely throughout the Northwest without let or hindrance, and to whoever wanted to buy and had the price."

The existence of the Van Brunt, the Superior, the Tiger,

the Fountain City, the Monitor and other coil spring shoe pressure drills which the defendants might have bought and sold and dealt in, makes them not only proper, but *necessary* standards of comparison, to be taken into account in determining the profits, if any, which the defendants realized from the purchase and sale of the infringing drills. How much *more* did the defendants make in buying and selling the infringing drills than they *would* have made if they had bought and sold an equal number of Van Brunt drills, for example, or Superior drills, or others which they had a right to buy and sell? Take the Van Brunt drill, for instance. It was very popular in the Northwest. It sold in direct competition with the complainant's and defendants' drills containing the Hoyt invention. It was often preferred by farmers. From 1889 until 1903—a period of about fourteen or fifteen years —there were over 23,500 of the Van Brunt drills alone sold in the Northwest Territory. This is a greater aggregate than all the *infringing* drills containing the Hoyt invention combined that were sold in that territory. Mr. Fowle, in answering X-Q. 24, on page 162, says that there were "approximately 20,000" infringing drills sold in the Northwest from first to last, as nearly as he can state; yet the Van Brunt Company alone, from 1889 to 1903, sold several thousand more coil spring pressure drills. If we add to this the number sold by the manufacturers of the Superior, the Tiger, the Fountain City, and the Monitor shoe drills, we would have a total of doubtless more than 40,000 coil spring pressure drills sold in the Northwest from 1889 to 1903, not counting the Havana and the Ashurst press shoe drills, which doubtless amounted to more than 20,000 more. But as this period covers a couple of years before the introduction of drills containing the Hoyt invention, it is probable that a few thousand were sold before the Hoyt invention was introduced. But with due allowance for this fact, we can say that more non-infringing coil spring pressure drills were sold in direct

competition with the infringing drills containing the Hoyt invention than there were of the complainant's drills themselves—a great many more.

Yet no effort whatever has been made by the complainant to show how much profit or advantage the defendants have realized from the sale of the infringing drills *over and above* what they would have realized if they had bought and sold the Van Brunt or other *non*-infringing *coil* spring pressure shoe drills, which were open to them to buy and sell. The complainant has ignored these drills, so far as making any comparison with them is concerned, and has proceeded *as though they had never* been made or sold. This has been in manifest violation of the doctrine or principle in reference to the comparison of profits by which, as said by this court in *McCreary* v. *Pennsylvania Canal Co.*, *supra*, "The plaintiff is limited to such profits as have arisen from the use of the improvement over what the defendant *might have made* by the use of that or other devices *without such improvements.*" The Van Brunt and other coil spring pressure shoe drills were, to use the language of the Supreme Court, "without such improvement," they were "machines adapted to the same uses," they were "valuable in the market and *salable*," in which case this court says: "The inquiry is what was the advantage in cost, in skill required, in convenience of operation, or *marketability*, gained by the use of the patented improvement." Yet the complainant has disregarded this entire doctrine of comparison of profits and proceeded as though the Van Brunt and other coil spring pressure shoe drills had never been sold, and as though no foundations were laid and no standards existed for the application of the doctrine of the comparison of profits. The complainant has disregarded the position and rights of the defendants as *merchants*, buying and selling drills, and has proceeded the same as though they were *manufacturers* of drills, and

has sought to show that they had no right to *manufacture* the non-infringing drills, though it has conceded that they had the right to *buy and sell* such non-infringing drills, made by the owners of the patents covering them, lawfully and in *non*-infringement of the complainant's patent. The complainant claims the *entire* profits, if any, that the defendants have made, even though they *might* have dealt in and bought and sold other shoe drills not containing the Hoyt improvement and realized profits—whether more or less is immaterial. The important and esential fact is that the defendants *might* have bought and sold these *other* existing *non*-infringing drills which were sold by their makers "freely throughout the Northwest without let or hindrance and to whoever wanted to by and had the price." This made it absolutely necessary for a comparison to determine the relative profits arising from the purchase and sale of the *in*fringing and *non*-infringing drills so as to charge the defendants only with the *excess* of gains or profits which they realized, if any, in handling the *in*fringing drills.

The Patents on the Competing Coil Spring Drills.

As already said, in order to prevent the application of the doctrine of comparison as to profits and damages in this case, the complainant has attempted to show that the competing *non*-infringing *coil* spring pressure drills sold in the Northwest had various patented features in them and, on page 163 of the Complainant's Record, Mr. Fowle was asked to specify the patents on the different drills sold in competition, and he specified certain patents on the Van Brunt, the Superior, the Tiger, the Monitor, the Fountain City and the Havana drills. These patents were recent patents—one of them being issued as late as December 8, 1903—and they simply related to improvements in *details of construction*, not touching the essen-

tials of the drills which had become public property, nor covering the *coil spring pressure device* for the shoes, which was an old feature shown in patents as early as the Patton 1868 patent, for example, shown at page 896 of the Record. The subject-matter of these patents not only related to details but to details which *could be dispensed with* in the construction of a practical, operative and salable drill.

We called the attention of Mr. Bond to these patents and, in answer to Q. 24 of his deposition, p. 779, he said:

> "The inventions found, shown, described and claimed in the several patents are for features of construction which can be dispensed with and other features employed in the place thereof, and, in my opinion, the inventions summed up in the claims of said several patents are for features non-essential in that the elements which enter into the combination of the claims can be replaced with other elements found in the prior art, and this without destroying or impairing the essential features of construction which I have heretofore enumerated as necessary for a practical and successful seed drill. In short, I regard the devices of these patents simply as other or additional means or ways of accomplishing the desired results over and above those which were already free and open to the public through the expiration of prior patents."

It is a common practice for manufacturers of machines like seed drills to patent every little feature and detail that they can so that they can mark their drills as patented. We asked Mr. Fowle, on page 162, about this:

> "X-Q. 23. Manufacturers of drills practically all have their special forms and designs, and are constantly making changes in details which they secure or attempt to secure by patents so as to mark their machines as patented, and so as to have something to talk about to their customers as well as improve the general construction of their drills. Is not this the case?
>
> "A. I believe it is, and think it a good thing for them

to do so, because if there were no distinguishing features price alone would be the consideration in marketing their goods. I have never seen a machine so poor but what some were sold and had some advocates. I have never seen one good enough to secure all of the trade, but with a difference in 'talking points' a better general price can be secured than with uniformity in construction."

This patenting of details has gone on since the 8th of December, 1903—the date of one of the patents cited by Mr. Fowle to show that the competing drills were patented—and we asked Mr. Bond, on page 780, to state the facts as to the issuance of patents subsequent to that date:

"Q. 26. Please examine and give us the facts as to whether there have been patents issued for improvements in the class to which shoe grain drills belong subsequent to the date of the Ackerman patent, December 8, 1903, and if so, how many patents have been issued since that time?

"A. I have information down to and including October 4, 1904, a period of less than a year from the date of the Ackerman patent, and in that period of time fifty-four patents were issued in the class to which shoe drills belong. By examining the Official Gazette subsequent to that time I could ascertain how many more have been issued, if desired.

"Q. 27. As a solicitor of patents of some thirty years' experience, what have you to say as to when an art like that of shoe grain drills, for instance, becomes exhausted so that no further patents for improvements, or supposed improvements, in details of construction are to be expected?

"A. I do not believe that an art like shoe drills would become so exhausted, at least during this century, that minor features of construction embodying combinations of elements, some new and some old, could not be made the proper subject for obtaining patents therefor, but such patents would only be construction patents not covering essential and necessary features required in the construction of a practical and successful shoe drill. In fact I believe that all such features are now and for many years have been free and open to the public."

Indeed, if the contention of complainant's counsel, that an invention is not free and open to the public so long as there are patents covering details of construction in the drill containing it, *that can be dispensed with* and that are *not essential to the existence and operation* of the drill, as we have shown above is the case with the patents on competing drills, be accepted, then when could it be said that an invention was free and open to the public? The Hoyt patent sued on expired February 10, 1908. Is the Dowagiac drill open to the public now? Common sense says that it is so far as the *Hoyt* invention is concerned, but it is not and could not be used for purposes of comparison, if the complainant's contention be sound, because a number of *other* existing patents enter into its construction, so that the public cannot make and sell the machine in the form in which the complainant is making and selling it. According to the testimony of Mr. Hoyt, page 242, there are embodied in the construction of the complainant's Dowagiac drill the improvements of a patent dated March 7, 1893, of another dated June 20, 1899, of another dated October 10, 1899, of another dated July 17, 1900, and of another dated July 22, 1902. These patents are all alive and in force and are embodied in the complainant's drills. It is preposterous, however, to say that because of these later existing patents on details of construction the improvements and inventions *of the Hoyt patent* sued on are not free and open to the public. In like manner, the competing Van Brunt, Superior, Tiger, Monitor, Fountain City, and other drills manufactured and sold by competitors, with coil spring shoe pressure devices, *which devices were free and open to the public,* were, during the period of the accounting, just as free and open to the public as the complainant's Dowagiac drill, with the Hoyt spring pressure device, *now* is—fully free and open, except as to the *specific* details which formed the subject-matter of improvement patents which could be dispensed with as not essential to a practical and operative drill.

If, as the fact was, the defendants could have bought and sold *other* drills—the coil spring pressure drills like the Van Brunt—not infringing the Hoyt patent and *rightfully made by their manufacturers,* as was the case, then they were free and open to *them* to use—to have bought and sold—and, therefore, form proper standards of comparison in their case. This leads us to a proposition specially applicable to this case that may be formulated as follows:

The fact that the defendants were merchants dealing in shoe drills, buying them and selling them again, renders the existence of patents on the machines set up as standards of comparison immaterial, as they in no way prevented such machines from being free and open to the defendants where the owners of the patents are manufacturing them and are willing to sell them to the defendants. In such case they are as free and open to the defendants as if there were no patents on them at all, and the doctrine of comparison between the Hoyt invention and such machines applies in its fullest sense.

The above proposition seems so plain and reasonable that we can hardly assume that it will be questioned by complainant's counsel. But, however that may be, it is manifestly too clear and sound to be successfully disputed or attacked. It renders immaterial the existence of patents on the competing drills, however material that fact might possibly be in a suit against *manufacturers,* as were the suits against the McSherry and Brennan companies in the Sixth Circuit.

The Improper Standard of Comparison Adopted.

Can the more than 50,000 *coil spring* pressure shoe drills of the Van Brunt and other makers—all non-infringing and free and open for the defendants to have bought and sold and dealt in as *merchants* buying and selling drills—be disregarded and ignored as a standard of comparison in seeking to ascertain the amount of profits, if any, that the defendants made by selling the infringing drills over what they might have made by selling, for example, the Van Brunt drills, which the evidence showed were in active competition with them in the Northwest, and just as popular, salable and efficient as the patented drills and the defendants' drills. Surely not. Yet this is just what the complainant did in making its comparison. It adopted the old *hoe* drill as the basis of comparison—a drill that was unadapted to the soil conditions of the Northwest, Wisconsin, Minnesota, the Dakotas and Western Canada—where the patented drill and the defendants' drills were sold—*and in which the hoe drills were rarely if ever used.*

The witness Swayne, who was the general agent of the complainant for the Northwest during the entire infringing period, and traveled "almost constantly" throughout Western Minnesota, North Dakota, the northern part of South Dakota, and Canada west of Winnepeg, on page 156, was asked:

> "X-Q. 30. You have mentioned a number of drills that came into competition with the Dowagiac drill during the period that you were the agent for the same. As I understand you, the drills that you mentioned in your answer to cross-question 10 were shoe drills. Is that correct?
>
> "A. Yes.
>
> "X-Q. 31. In your answer to cross-question 10, did you include other kinds of drills than shoe drills? If

not, please mention all other kinds of drills—disk drills or hoe drills—that you were in competition with while selling the Dowagiac shoe drills.

"A. Disk drills came into competition about 1902; *we use no hoe drills in our territory.*"

The witness Swayne, the complainant's general agent for the Northwest, where the patented drills and the defendants' drills were sold, was again on the stand and was asked, on page 292:

"Q. Any hoe drills used in that territory?

"A. I sold one hoe drill. That is the only one I ever sold *or have ever seen in that territory.*"

The above is the testimony of the complainant's general agent for the Northwest, the man on the ground traveling the territory twice or three times a year, as appears from his answer at the top of page 288, and who was doing this from sometime in July, 1896, till November, 1904, as appears from his testimony on page 151—during the entire infringing period.

The reason there were practically, not to say literally, no hoe drills sold or used in the Northwest was because the character of the soil—the heavy, gumbo soil—hard when dry and sticky when wet—precluded them from doing the work efficiently, satisfactorily or practically. The soil required the shoe furrow opening type of drills that opened the soil as a wedge opens a log, and these have now given place to the more efficient type of disk furrow openers, as the testimony shows.

It surely needs no argument to show that nothing could be more unfair than to take the hoe type of drill, of which the complainant's general agent testifies that, during the eight years of his constant work in the Northwest, he never

saw but a single one, and use it as the standard of comparison, while more than 50,000 shoe drills of the Van Brunt and other makes, provided with non-infringing coil spring shoe pressure devices, were sold in that territory in competition with the patented drills and the defendants' drills. Such a standard of comparison as the non-workable hoe drills cannot, of course, be adopted to the exclusion of the workable competing non-infringing coil spring pressure shoe drills that were actually there in use and on sale by the thousands.

But the complainant says it took the old hoe drills as the standard of comparison because they were *un*patented drills, while the Van Brunt and other makes of coil spring shoe pressure drills had patents on various details, so that they were not free and open to the defendants to make and sell. But this ignores the fact that the defendants did not *make* drills, did not *need* to make drills, but were simply *merchants* buying and selling drills, and that Van Brunt and the others who made the drills, owned the patents on them, made them lawfully, infringed not the patent sued on, and sold them "freely throughout the Northwest, without let or hindrance, and to whoever wanted to buy and had the price," as Mr. Fowle, the complainant's sales manager admitted in answer to X-Q. 13, on page 160. It also ignores the fact that the coil spring pressure device, considered as a means of imparting the desired pressure to the shoes, was free and open to the public as early as 1882, when the Patton 1868 patent, shown at page 896, expired and became public property, and the fact that the patents, cited by complainant to show that the Van Brunt and other coil spring pressure drills were "patented" drills, were not on the spring pressure device, but simply on details of construction that were *dispensible* and not essentials of a practical, operative drill, as pointed out by Mr. Bond at page 779.

Summary As to Comparison.

The facts and considerations above suggested are decisive of the correctness of the conclusions and findings of the Master and court below on the question of profits made by the defendants or lost by the complainant. There is no need of going further into the case. The complainant's proofs have utterly failed to make any comparison with any of the various makes of non-infringing drills that were *open* to the defendants to have *bought and sold,* and have utterly failed to show that the defendants have made any profits whatever *over* and above what they *might* have made by buying and selling such non-infringing drills—carrying on their business of *merchants* dealing in drills—and so it was impossible for this reason alone, if there were no others, for the Master or court to have done otherwise than to award only nominal damages. Irrespective of other reasons, the decree must be affirmed, because the complainant made no comparison with the non-infringing drills which were open for the defendants to have bought and sold instead of the infringing drills.

We have presented the foregoing reason why the decree of the court below was right as to everything touching profits and must be affirmed, as our first reason because if we are right in our contention, this court will be relieved of the necessity of considering or deciding the question as to whether there is any conflict, in understanding and applying the rule as to apportionment of profits or damages, between the Circuit Courts of Appeal in the Sixth and Eighth Circuits.

Second.---The Necessity of Apportioning is Not Dependant on the Form of the Claim.

Notwithstanding the claim of a patent is for a combination of parts which includes as elements the principal parts of an old and operative machine which the patentee has improved by substituting one part for another, as for example, a spring *rod* shoe pressure device in a grain drill for a *coil* spring pressure device, the complainant is not relieved, by the form of the claim, from the necessity of showing the difference in value financially considered, between the old combination and the new, whether that difference in value consists in increasing the efficiency of the machine, enhancing its selling price, facilitating its sale, or in any other way. In a word, the principles of evidence are not changed by the *form* of the claim, and the necessity of showing the amount of profit that is attributable to the actual contribution that the patentee has made to the art, exists with reference to combination claims the same as it does with others. This states, in brief, the gist of the difference that is alleged to exist between the decisions of the Circuits Courts of Appeal of the Sixth and Eighth Circuits.

Render to Cæsar What Belongs to Cæsar.

In the application of the doctrine of the *comparison* of profits, the courts have proceeded upon the manifest right of restricting a patentee's recovery to his *own* special contribution to the art, and refusing him what has been contributed by *others*. If comparison were not made, the patentee might recover not only the savings or profits that were due to his *own* special contribution to the art, but also for the contributions of others that had preceded him and those whose inventions were still covered by existing patents. Thus a de-

fendant might be liable to a number of recoveries for the entire savings or profits that he had realized from the infringement. This will be apparent from numerous decisions, one of which we will here quote as speaking for all.

In *Mowry* v. *Whitney*, 14 Wall., 650, this court, in considering a process of annealing, said:

> "If the wheels made by the defendant would have no market value above that of cast iron if they had not been annealed and slow cooled, the same may be said if they had been cast without a chill. The same principle, therefore, which gives to the complainants the aggregate profits of the entire manufacture would give the same profits to a patentee of the process of chilling, if there were one, and as there are many processes in the manufacture, for each of which it is conceivable there might be a patent, and as every one of the processes is necessary to make a marketable wheel, an infringer might be mulcted in several times the profits he has made from the whole manufacture. We cannot assent to such a rule."

From the reasoning and considerations that lay at the basis of the above decision, it is obvious that without the doctrine of the *comparison* of profits to find to what extent the defendant has benefitted by the patent over what he might have benefitted if the invention had never been made, it would result in many cases in giving to the patentee more than he was entitled to and thus work an injustice to a defendant who had used the invention in conjunction with the inventions of others, either patented or open to the public. The courts, therefore, early saw the necessity of distinguishing between those cases where the patentee was the inventor of an *entire and complete device* as a new article and those cases where he had *improved upon existing* devices or machines. It was found that most inventors occupy the position of *improvers* upon prior existing structures. They take the art as it exists

and advance it a step or two by adding to what had already been done by others. Most machines and devices are what may be termed "composite" structures. They are built up by the successive accretions of the labors of a long line of inventors, each contributing something to the perfected device or machine. Manifestly it would be improper and unjust that the man who merely placed the cap sheaf on a shock of grain should be credited with all the profits or benefits that result from the breaking of the soil, the sowing of the seed, the cutting of the harvest, the binding of the sheaves, and the gathering of them into shocks, even though no perfected shock would exist until the man came along who provided them with the cap or covering sheaf. These reflections, on the manifest requirements of justice, led to the introduction of another principle of patent law that may be regarded as an offshoot of the doctrine of comparison, and necessarily growing out of it, and which may be termed

The Doctrine of Apportionment of Profits.

The doctrine of the apportionment of profits or damages, together with the exception to the rule, may be comprehensively formulated in a proposition, as follows:

Where the patented invention is less than the whole machine, the complainant must apportion between it and the features and inventions of others, patented or unpatented, unless he can show that the machine was not usable or salable without the presence of the patented invention.

In accordance with the above principle or doctrine, the courts require that a structure or machine shall be *analyzed* or separated into its component parts, and only the benefits or advantages resulting from the patentee's *separate* contribution to the machine awarded or given to him. Instead of

receiving the benefit of the whole, complete, composite structure that embodies the labors and thoughts of many individuals, *each* patentee contributing to the machine is awarded *only* those saving and advantages that result from the use of his *own* particular specific invention or improvement. The courts found, however, that there was *occasionally* a case that formed an *exception* to the general rule of apportionment, and, in order to do justice in such exceptional cases, they created an exception to the general rule to the effect that all of the profits or savings made by an infringer were to be awarded to a particular patentee where the evidence clearly, fully and *indisputably* showed that the *entire* advantage, savings or profits were due to the particular feature or device of his patent. Manifestly these *exceptional* cases, as the name implies, are of rare occurrence, and, consequently, the evidence establishing them must be of the plainest and most convincing kind. The decisions stating the doctrine of apportionment of profits usually also state the exception, so that the same line of decisions serves to formulate the rule and to define the exception.

In support of the doctrine of apportionment, a long line of decisions has grown up, so that it is as clearly and as fully established today as the doctrine of comparison. Its applicability is constantly expanding and becoming of more universal use as devices and machines are becoming more complex and composite in their nature than where they represent the simple inventions of a single inventor. Few devices or machines at the present time are the work of a single individual. They are mostly the result of the contributions of many. Hence the doctrine of apportionment is of as great applicability and importance in accountings for damages and profits as the doctrine of comparison.

In order that the court may have the exact language of the

decisions announcing and establishing the doctrine of apportionment of profits and damages, with the exception to the rule, we have concluded for convenience of consideration, to quote from many cases decided by this court and on the Circuit.

In *Garretson* v. *Clark,* 111 U. S., 121, this court, in 1883, the italics being ours, said:

> "When a patent is for an improvement and not for an entirely new machine or contrivance, the patentee must show in what particulars his improvement has *added* to the use of the machine or contrivance. He must *separate* its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated. The rule on this head is aptly stated by Mr. Justice Blatchford in the court below: 'The patentee,' he says, 'must in every case give evidence tending to *separate* or *apportion* the defendant's profits and the patentee's damages *between* the patented features and the *unpatented* features, and such evidence must be reliable and tangible, and not conjectural or speculative; or he must show by equally reliable and satisfactory evidence, that the profits and damages are to be calculated on the whole machine, for the reason that the *entire* value of the whole machine, *as a marketable article,* is properly and legally attributable to the patented feature.' The plaintiff complied with neither part of this rule. He produced no evidence to apportion the profits or damages between the improvement constituting the patented feature and the other features of the mop. His evidence went only to show the cost of the whole mop, and the price at which it was sold."

In *Blake* v. *Robertson,* 94 U. S., 733, this court, in 1876, the italics being ours, said:

> "Inventions covered by other patents were embraced in those machines. It was not shown *how much* of the profit was *due to those other patents,* nor how much of it was manufacturers' profit. The complainant was, therefore, entitled only to nominal damages. This the court

gave him. It was all the state of the evidence warranted. It would have been error to give more."

In *Keystone Mfg. Co.* v. *Adams*, 151 U. S., 146, this court, in 1893, after stating the right of the complainant to a recovery of profits in equity cases, the italics being ours, said:

> "It is unnecessary, in this opinion, to review the numerous cases, some at law, others in equity, wherein this court has considered various aspects of this question. It is sufficient to say that the conclusion reached may be briefly stated as follows. It is competent for a complainant, who has established the validity of his patent and proved an infringement, to demand, in equity, an account of the profits actually realized by the defendant from his use of the patented device; that the burden of proof is on the plaintiff; that where the infringed device was a *portion only* of defendant's machine, which embraced inventions covered by patents other than that for the infringement of which the suit was brought, in the absence of proof to show how *much* of that profit was due to such *other* patents, and how much was a manufacturer's profit, the complainant is entitled to nominal damages only. *Seymour* v. *McCormick*, 16 How., 480; *Rubber Co.* v. *Goodyear*, 9 Wall., 788; *Mowry* v. *Whitney*, 14 Wall., 620; *Elizabeth* v. *Paving Co.*, 97 U. S., 126."

In *Star Salt Caster Co.* v. *Crossmann*, 4 Banning & A., 567, Judge Lowell, in 1879, the italics being ours, said:

> "The rule is now well settled that the profits which a plaintiff is to recover must be those only which can be proved to have resulted from *his particular improvement* upon the *existing* machine or manufacture, and that the burden of proof is upon him to show what his profit was. The rule, though just, is at times harsh in its operation. There are several reported cases, in which patentees, who are proved and admitted to have made valuable improvements which have controlled the market for the whole machine, have recovered merely nominal damages, from their inability to make out what value was to be attached to their part of the new machine."

In *Kirby* v. *Armstrong*, 5 Fed. Rep., 803, Judge Gresham, in 1881, the italics being ours, said:

> "It is now well settled that if the complainant in a suit for an injunction and profits fail to show that the use of his invention in connection with other machinery, of which his invention is an improvement, has produced a *definite part* of the whole profits, his recovery of profits must be nominal only. *Robertson* v. *Blake*, 94 U. S., 728; *Garretson* v. *Clark*, 16 O. G., 806."

In *Calkins* v. *Bertrand*, 8 Fed. Rep., 758, Judge Blodgett, in 1881, the italics being ours, said:

> "I consider the law to be well settled that when a complainant's patent covers *but one of many features* of a machine, the gains on the whole machine cannot be reckoned as damage, but only the gains arising from the use of the special device or element covered by the complainant's patent. If the *other parts* of the machine which go to make the whole a *complete and operative* organization manufactured by defendants, are covered by patents in which complainant has no interest, or even if they are *public property*, the complainant cannot claim profits made by the use of such parts, *even in combination with his device.*"

In *Maier* v. *Brown*, 17 Fed. Rep., 736, Judge Brown, afterwards Justice Brown, in 1883, the italics being ours, said:

> "There is no doubt whatever of the general proposition that the patentee of an improvement is limited in his recovery to such profits as may be properly *apportioned* to the use of his improvements. He can only recover profits upon the *entire* article when such article is *wholly* his own invention, or when its *entire* value is properly and legally attributable to the patented feature. . . . The fact that it is impossible to separate the profits arising from the improvement from those incident to the manufacture of the whole machine, is an insufficient reason for awarding the plaintiff more than he is justly entitled to."

In *Bostock* v. *Goodrich,* 25 Fed. Rep., 819, Judge Butler, in 1885, the italics being ours, said:

> "Tuck markers, differing from the complainant's only as respects these combinations and devices, had been in use for many years prior to the date of these patents. The complainant simply *improved* the old machines, rendering them *more serviceable* than before, by increasing their adaptability to the use contemplated. The rule for ascertaining profits, applicable to the case, is therefore, the one applied in *Garretson* v. *Clark,* 111 U. S., 120."

In *Reed* v. *Lawrence,* 29 Fed. Rep., 918, Judge Severns, in 1886, the italics being ours, said:

> "If the manufactured article embodies the use of other valuable features not patented to the complainant, but which have contributed to its market value, *whether such other features are patented to any other person or not,* the defendant is not liable for the use of them to the complainants. If such other features are patented to some third party, that person is the one entitled to recover for that infringement, to the extent which his patented device has contributed to the defendant's profits. But if, on the other hand, those other qualities are not patented at all, then the defendant, in common with the general public, has a right to apply them to his business, and make the most he can of them. They belong to the common stock, and there is no exclusive right to them in any one."

In *Hunt Bros. Fruit Packing Co.* v. *Cassidy,* 53 Fed. Rep., 261, the Circuit Court of Appeals for the 9th Circuit, Judges McKenna, Ross and Knowles, in 1892, the italics being ours, said:

> "The evidence as to damages consisted of evidence of a license fee which he had fixed for both of his devices, and evidence of the profit to be made in manufacturing fruit dryers containing both of these improvements, *and also certain unpatented features.* The authorities are full upon the point that a party cannot recover as damages the profits to be derived from the manufacture of

the *whole* of a machine, when only a portion of the same contains the patented feature."

In *Untermeyer* v. *Freund*, 58 Fed. Rep., 211, the United States Circuit Court of Appeals for the 2nd Circuit, Judges Wallace, Lacombe and Shipman, in 1893, the italics being ours, said:

> "The well settled doctrine of the Supreme Court was and is that the profits to be assessed, under section 4921 of the Revised Statutes, in suits in equity for the infringement of a patent, are those only which are properly *attributable* to the patented feature, and that the evidence of the patentee must 'apportion the defendant's profits, and also the patentee's damages, between the patented and *un*patented features.'"

In *Brinton* v. *Paxton*, 134 Fed. Rep., 80, the Circuit Court of Appeals for the 3rd Circuit, Judges Acheson, Gray and Holland, in 1904, said:

> "The respondents were selling the infringing device in connection with a machine or mechanism containing a large number of *un*patented parts, which, as a whole, had a commercial value, upon which a profit was realized, according to the admissions of respondents themselves, of $10 on each machine. The complainants, however, failed to establish just what portion of the profits were due to the infringing mechanism, and the Master rejected their claim for the whole of the profits on the machine sold, for the reason that a patentee must show in what particular his improvement had added to the usefulness of the whole machine or contrivance. He must separate its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated."

The above decisions have been selected from many courts, considering diverse kinds of machines and devices, during the last third of a century, to show the general applicability of the doctrine of apportionment, the definite language in which

the courts have formulated it, and the necessity of meeting its requirements.

With this clear understanding of the doctrine of apportionment in cases where the infringing machine contains *other* features, arrangements, combinations, inventions or improvements, *whether patented or not,* we are ready to take up and consider the shoe drills sold by the defendants to see whether or not they present a case for the application of the principle of apportionment.

Applicability of the Doctrine of Apportionment to this Case.

The defendants' expert, Mr. Bond, made a most thorough and exhaustive study and analysis of the defendants' shoe drills and of the grain drill art. He says that in the study of the art relating to planters of all kinds, including corn planters, disk drills, hoe drills, shoe drills and broad cast seeders, he has examined probably 5,000 patents, and that in the class of shoe and hoe drills he has examined in the neighborhood of 900 to 1,000 patents. He says that he has counted the patents in the class to which the Hoyt patent in suit belongs and that there had been issued in that class, prior to the issuance of the Hoyt patent, "some 500 in round figures —probably half a dozen more or less." He says that at the date of the Hoyt patent "all of the *essentials* of a practical and successful shoe drill had been fully developed."

We then asked him to analyze a shoe drill so as to point out its necessary and essential features, arrangements or combinations, and to refer to prior patents containing these necessary or essential features, arrangements and combinations, to show that they were old and shown in patents which had expired and become free and open to the public, not

merely in the legal sense, but in the popular sense, prior to the beginning of the infringement which, for the purposes of the inquiry, we placed at January 1, 1896, although the first sales of the infringing drills did not occur until sometime after that. Mr. Bond's analysis and exposition of the essential and non-essential features of a shoe drill are so clear, full and convincing that we earnestly ask the court to read his discussion on the subject, beginning with question 11, p. 752, and ending with his answer to question 19.

Mr. Bond found twelve *essential features*, arrangements or combinations contained in the complainant's and defendants' shoe drills, *none of which could be removed or dispensed with* without destroying the practical, successful or commercial character of the drill. All of these twelve essential combinations or arrangements were of a nature *to have required invention* at one time or another, in the development of the grain drill art. Whether they were *claimed* in the particular patents referred to by Mr. Bond as showing and disclosing them, we regarded as a matter of no consequence or importance in view of the frequent statement of the Supreme and other courts that in an accounting for profits or damages the value of the patented feature must be separated and distinguished from the other features and inventions entering into the construction of the device or machine, *whether* patented or *un*patented. Mr. Bond found that the modern grain drill, like the complainant's and defendants' shoe drills, are what may be termed "composite" machines, containing in their construction ideas, inventions and improvements of many inventors in the grain seeding art. He says that "the various features of grain drills are the result of inventions, made by different inventors, and embodied, from time to time as the art progressed, in the complete drill." He says that "the complete and modern drill may, therefore, be well said to be a 'composite' ma-

chine; that is, made up of these several independent features embodied in the machine by different inventors." He says further that the complainant's and defendants' drills "are characteristic examples of the modern composite machine" and contain various essential and important features and combinations which are "of a nature to have, during some period in the development of the grain drill art, embodied and contained invention." We will take up the twelve important and essential arrangements, combinations and features enumerated by Mr. Bond and will quote the formulations in which he has enumerated them, so that the court will have them in the most convenient form for consideration, as follows:

> "1. Carrying wheels adapted for traveling over the ground, an axle for the carrying wheels, a supporting frame mounted on the axle by which the other appliances of the machine are carried, a tongue for the attachment of the team, a shoe furrow-opener, a seed box and a conduit between the seed box and the furrow opener for conveying the seed into the furrow."

By carefully considering the above formulation it will be seen that it contains all of the necessary and *essential* features to make an operative shoe drill *capable of doing work*, yet this idea embodied in a concrete structure will be found clearly and fully disclosed in the Wheeler 1869 patent, p. 902, which became public property in 1883, as patents prior to 1870 were only issued for a fourteen-year term. Somebody at some time in the grain drill art made or got up or invented a *concrete* structure containing carrying wheels, axle, supporting frame, tongue, seed box, shoe, and conduit for carrying the seed from the box into the furrow. This concrete structure is shown in the Wheeler 1869 patent. If *he* did not invent it, then somebody *preceding* him did. The point is that it was *old* as early at least as 1869, and was public property prior to the infringement in this

case. We find *that* concrete structure or combination in the complainant's and defendants' shoe drills. Every item mentioned in the formulation quoted above is found in their shoe drills. They could not build or operate their shoe drills without the arrangement specified. But those parts and that arrangement are not *claimed* in the Hoyt patent in suit. They were old and public property *before* the invention of the Hoyt patent. The defendants had a right to sell shoe drills containing the parts and arrangements specified in the formulation, and could not possibly have sold shoe drills that did not contain them.

The next necessary or essential feature to a practical, successful and commercial shoe drill as specified by Mr. Bond is:

> "2. A seed box and a *force* feed for the grain from the seed box."

This idea and a physical embodiment of it was old in the March 1861 patent (p. 882), the McSherry 1864 patent (p. 888), the Patton 1868 patent (p. 896), the Wheeler 1869 patent (p. 902), and the Smith & Thomas 1878 patent (p. 909). The complainant's and defendants' shoe drills contain the arrangement of a seed box and a force feed for the grain, but Mr. Hoyt *did not invent* this feature or combination. It was old and public property long before the date of his invention. The defendants had a right to sell grain drills containing it. Yet it is *essential* to modern grain drills, and they could not be sold without it. Some day or other the arrangement of a seed box and a *force* feed to positively and certainly feed out the grain constituted an *invention*, an important advance in the grain seeding art. Whether it was claimed in the patents mentioned as showing and disclosing it is a matter of no importance.

But while the *force* feed is a matter of essential importance and accomplishes the end of assuring a positive delivery of the seed, yet by itself it does not secure the advantage of feeding a *desired* quantity of seed of different kinds, and so in order to accommodate seed of different sizes, it became important to furnish means for *adjusting* and *regulating* the quantity of seed forced from the seed box. Somebody early in the art recognized the importance and necessity of this arrangement, so that there would be, to use the language of Mr. Bond's third formulation in grain drills,

> "3. A seed box and an *adjustable* force feed for the grain from the feed box for *regulating* the amount of grain discharged by the feed."

This was an important step and advance in the construction of grain drills. It enabled the same drill to be used for planting wheat or corn or flax, or any other kind and size of seed desired. It was an invention, and a valuable one, to arrange means for *adjusting* and *regulating* the force feed to meet all conditions and requirements. But this idea and mechanism embodying it are disclosed in the Marsh 1861 patent (p. 882), and, disregarding other instances, it is shown in a highly developed form in the Smith & Thomas 1878 patent (p. 909). These patents became public property before the date of the infringement, and the defendants had a right to sell grain drills containing the arrangement and combination specified. It is not *claimed* in the Hoyt patent in suit, and was not the *invention* of Mr. Hoyt, but the complainant's and defendants' grain drills *could not have been sold* without containing such arrangement and combination.

While means for adjusting and regulating the amount of grain discharged are essential to a successful and modern

grain drill, yet it was considered important to employ means for *gauging* the seed delivering devices and *indicating* to the *operator* the adjustment of the feed and the amount of grain or seed delivered, so that he would not be obliged to make *trials* and experiments to determine just when he had got the right or desired adjustment, and so we find that there was added to the arrangement or combination

> "4. An accurate *gauging* of the cups and wheels for the feed and an *indicator* for enabling the operator to readily and quickly change the amount of seed or grain discharged by each cup and feed wheel."

This arrangement or combination was contained in the complainant's and defendants' grain drills, and is common to all modern grain drills. But means embodying this idea are shown in the Marsh 1861 patent (p. 882), and not to mention others, in the Smith & Thomas 1878 patent (p. 909). It is an essential to the sale of grain drills, but it was old and public property *long before* the invention involved in this accounting. The defendants had a right to use it. The complainant has no claim for whatever *it* may have contributed to the sale of the defendants' drills.

In modern grain drills, like those sold by the complainant and defendants, the shoes or runners are set *close together*, so as to utilize the ground to its fullest capacity and leave as little space as possible for the growth of grass or weeds. To effect the deposition of the grain in the *narrow* furrow behind the runner, caused by the close positioning of the furrow openers, it must be conducted from the seed box to the runner in a compact way and under conditions that will prevent scattering by the motion of the machine or the blowing of the wind. To attain this end it early occurred to some inventor in the art to have a *continuous* conduit or passageway between the seed box and the runner, and this

closed tube or conduit took its permanent place in the grain seeding art so that we find

> "5. A seed box for the grain or seed, a furrow opener—runner or other analogous implements—and a *connection* between the seed box and the furrow opener."

This idea is found in the Wheeler 1869 patent (p. 902), and in the Brennan, Taylor & Lyman 1877 patent (p. 905). These patents had fallen into the public stock prior to the date of the infringement, and the defendants had a right to use the combination expressed in the fifth formulation above. Mr. Hoyt made no claim to it. He could not. Yet it was *essential* to a grain drill, had long been used, and constituted a necessary and valuable feature in a grain drill.

In the construction of grain drills it was, of course, necessary to have some means for *connecting* the runner or shoe to the frame, and it was desirable that this should be done so that the shoe or runner should be *drawn* rather than pushed forward. It was necessary also that the shoe or runner should be formed *at its heel end* to permit the grain to be properly deposited in the furrow, and so we find that there was introduced into the grain drill art as a necessary arrangement or combination,

> "6. A runner for opening the furrow formed *at its heel end* to enable the grain to be deposited in the furrow, a connection between the heel end of the runner and the seed box, and *a drag bar* for the runner."

This idea and plan are found disclosed in the Wheeler and Tuttle 1867 patent (p. 892), the Patton 1868 patent (p. 896), and the Brennan, Taylor and Lynam 1877 patent (p. 905). The use of the *draw-bar* thus introduced into the combination or arrangement has been constant and permanent. The combination specified in the formulation above was con-

tained in the complainant's and defendants' shoe drills. They could not have been sold without it, yet it was not the *invention* of Mr. Hoyt. Whatever this combination contributed to the sale of the defendants' shoe drills is not to be credited to *him*. It was public property and open for the use of the defendants in the shoe drills and sold by them.

Not only was it essential to have the shoe or runner drawn forward by a drag-bar pivoted to the frame so as to enable the shoe to conform to inequalities in the ground and to be properly shaped at its heel end to permit the fall of the grain into the furrow, but it was necessary to have the shoe or runner of a *peculiar* shape and hung or mounted in a *particular* way to best adapt it to open the furrow, to cut the sod and weeds, to ride over trash or obstructions, to scour in the soil and to draw with little friction, and so there was introduced into the construction of shoe grain drills an arrangement or combination that Mr. Bond expressed in the following forumlation:

> "7. A runner for opening the furrow, having a *sharp cutting bottom edge and V-shaped exterior sides* with the apex of the V at the bottom and terminating in a heel end to furnish an opening for depositing grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, and a drag bar pivotally supported at its forward or draw end to allow the runner to rise and fall as required for uneven ground."

This arrangement or combination was contained in the complainant's and defendants' grain drills, and is, in fact, an essential of all modern shoe drills. This construction of shoe, however—V-shaped and mounted on its heel—was not new with the complainant. It was old in the art and disclosed as early as the Brennan, Taylor and Lynam 1877 patent (p. 905). It became public property, therefore, prior to the commencement of the infringement, and the defendants had a

right to use it in the drills which they handled and sold. The arrangement or combination formulated above is of such value and importance that shoe drills would not be commercially salable, to say nothing of their being unsuccessful in operation, without it. At some day or other in the development of the grain seeding art, the combination specified above constituted an invention for which a patent could have been obtained. Whether it was ever covered by a patent or not, however, is immaterial to the issues presented on this accounting, inasmuch as it was disclosed in patents long prior to Hoyt's.

But in order to allow the runner or shoe to ride over obstructions and conform to inequalities in the ground, it was necessary to provide means to secure such movement, and this would bring in a *yieldable pressure* of some sort—weight, coil spring, bar spring, rod spring, or something—by which the heel of the shoe or runner would be *held* to its work and at the same time *allowed* to rise and fall as it encountered obstructions and inequalities. A yieldable pressure device *of some sort* is a necessity in a practical and successful seeding machine, in order to enable the machine to work on all sorts of ground, and so we find introduced into the grain seeding art an arrangement or combination that may be expressed,

> "8. A runner for opening the furrow and having a heel end for depositing grain or seed in the furrow, a drag bar for the runner pivotally supported at its forward end to allow the runner to rise and fall, as required for uneven ground, and a *yieldable pressure* acting on the runner and *allowing* the runner to ride over obstructions and to enter depressions."

A combination like that above, in which *some* kind of a yieldable pressure is employed, was a necessity. That *yieldable* pressure might be the Hoyt spring pressure device, or

some *other* means for effecting a yieldable pressure, as *coil* springs or weights. Such arrangement or combination was, however, old and public property prior to the date of the infringement. We find the combination specified above in the Patton 1868 patent (p. 896), and in the Brennan, Taylor and Lynam 1877 patent (p. 905). The yieldable pressure invented by Mr. Hoyt may be a *better kind* of a yieldable pressure than any that preceded it, but, if so, *how much better*, expressed in dollars and cents?

While a yieldable pressure would be more or less effective and satisfactory, yet a pressure that could be readily and easily *regulated* would doubtless attain better *results*, inasmuch as the running depth of the shoe or runner could then be gauged to suit the furrow and the depth of planting, and an increased or decreased presusre for operating in hard or soft ground secured. The desirability of regulating or governing the running depth of the shoe by an *adjustable* yielding pressure, carried into the machine an arrangement or combination as follows:

> "9. A runner for opening the furrow and having a heel end for depositing grain or seed in the furrow, a drag bar for the runner pivotally supported at its forward end to allow the runner to rise and fall, and an *adjustable* yieldable pressure acting to regulate the depth of the furrow and allow the runner to ride over the obstructions and enter depresions."

This combination or arrangement was contained in the complainant's and defendants' drills, but it was old and is shown and disclosed in the Patton 1868 patent (p. 896), where every part and feature called for can be found. It was therefore open to the defendants for use in the grain drills which they bought and sold.

It is also desirable in the use of grain drills to plant as wide a strip of ground as practicable, and for this reason it

has long been customary to employ a large number of furrow openers or shoes arranged side by side with the necessary connections and attachments. The runners or shoes, however, should have a capacity for an independent rising and falling movement, but at the same time there should be means provided to permit all of the runners *to be lifted* and held *clear of the ground as* the machine is being drawn from field to field, or for other purposes. This led to the building of *broad* drills, in which there was employed:

> "10. A plurality of runners, each for opening a furrow and each having a heel end for depositing the grain or seed in the furrow, a drag bar for each runner, a yieldable pressure for each runner allowing the runner to rise and fall independently as required for uneven ground, and a lift common to all the runners for raising and holding all of the runners clear of the ground."

This combination or arrangement is found in the Patton 1868 patent (p. 896), and in the Brennan, Taylor and Lynam 1877 patent (p. 905). These patents expired before the infringement began, so that the above arrangement had become public property and was free to all to use. The complainant's and defendants' drills contained the above combination and arrangement as necessary and essential parts, but in both cases it was drawn from the older art, and, during the infringement period, was free and open to the public to use.

The rising and falling movement of the shoes or runners, as they passed over obstructions and inequalities in the ground, made it desirable to have a connection between the seed box and the heel of the shoe which, while permitting the rising and falling movement of the shoe, would not be *broken or interrupted*, but which would be continuous, irrespective of the position of the shoe or runner. As a consequence there was introduced into the construction of seed drills a combination which may be expressed as follows:

"11. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, a drag bar pivotally supported at its forward end to allow the runner to rise and fall as required for uneven ground or passing over obstructions, a spring furnishing a yieldable pressure for the runner, a seed box and a *continuous, flexible or telescopic* connection between the seed box and the boot."

This combination was contained in the complainant's and defendants' shoe drills, and in fact, in all modern grain drills. It is one of the necessary arrangements. But it was old in the art, and had been contributed by some inventor years before the Hoyt invention in suit. A good illustration of this arrangement is found in the Patton 1868 patent (p. 896), and practically the same arrangement may be seen in the Brennan, Taylor and Lynam 1877 patent (p. 905). The defendants, therefore, had a right to sell grain drills containing the combination in which a continuous, flexible or *telescopic* connection was employed between the seed box and the boot.

After the seed had been deposited in the furrow formed by the shoe or runner, it needs to be covered with earth under ordinary conditions, and for this purpose it early became necessary to devise practical means by which the earth could be returned to the furrow over the seed and in such a manner as not to cover the seed too deeply. This brought into the construction of grain drills a combination in which a *covering* feature formed one of the elements, as follows:

"12. A runner for opening the furrow and having a heel end for depositing the grain or seed in the furrow, a boot upwardly extending from the heel end of the runner, a drag bar pivotally supported at its forward end to allow the runner to rise and fall, and a *coverer* following the heel end of the runner for *closing* the furrow over the deposited or dropped grain or seed."

page 154 and extending through to X-Q. 29 inclusive, as follows:

"X-Q. 22. In all practical and successful shoe drills, there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens and *drag bars* pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground. Are not these features essential to any practical shoe drill?

"A. Yes.

"X-Q. 23. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and *means for pressing* or forcing the shoe into the ground to open the furrow the desired depth. Are not these features essential to any practical shoe drill?

"A. Yes.

"X-Q. 24. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and *means for raising the shoe or runner out of and holding it above* the ground for the purposes of transportation or going from one field to another. Are not these features essential to any practical shoe drill?

"A. Yes, in the territory in which I am familiar.

"X-Q. 25. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, *and means for closing or filling the furrows* made by the shoe or runner. Are not these features essential to any practical shoe drill?

"A. The first part of question, yes. In certain conditions of ground it is necessary to have means for closing the furrow.

"X-Q. 26. In the conditions of ground that generally

This combination was contained in the complainant's and defendants' shoe drills, the *covering* device being a drag chain, which smoothed the ground and leveled the furrow. Covering chains, however, were old in the art and are shown in the Wheeler & Tuttle 1867 patent (p. 892), in connection with furrow openers and the other elements of the combination specified above.

It thus appears that in the complainant's Dowagiac and in the defendants' infringing drills, there were contained twelve combinations or arrangements of necessary and essential parts and features, without which the drills would not have been salable or practically operative. In fact, the removal of any of these essential features or combinations would have destroyed the machine as an operative structure, with the possible exception of the third and fourth combinations or arrangements, and the removal of these features, if it did not destroy the operativeness of the drills, would have destroyed their salability. If they were not constructional essentials they were *commercial* essentials. We may say, therefore, that each of these twelve arrangements or combinations enumerated by Mr. Bond are absolutely necessary and essential to the construction, operation and sale of practical, up-to-date shoe drills, such as were the complainant's Dowagiac drills and the defendants' infringing drills.

There is no dispute about the essential character of the combinations and features enumerated by Mr. Bond. No witness in rebuttal has questioned the *correctness* of his enuemration of *essential* features. In fact, Mr. Swayne, general agent for the complainant company in the Northwest, directly and explicitly concedes the essential character of most, if not all, of the features enumerated by Mr. Bond. His admission of the essential character of the things enumerated by Mr. Bond will be found beginning with X-Q. 22 on

prevail *in your territory* during the seeding period, is it not necessary to have means *of some kind* for closing or filling up the furrow?

"A. Yes.

"X-Q. 27. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and *a frame to which a plurality* of shoes or runners may be attached through their drag bars. Are not these features essential to any practical shoe drill?

"A. Yes.

"X-Q. 28. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, a frame to which a plurality of shoes or runners may be attached through their drag bars, and *a seed box mounted on the frame* for carrying a supply of seed. Are not these features essential to any practical shoe drill?

"A. Yes.

"X-Q. 29. In all practical and successful shoe drills there is a boot or upright tubular grain conveyor, a shoe or runner having sides between which the lower end of the boot or grain conveyor opens, drag bars pivoted at their forward ends to permit the shoe or runner to rise and fall to conform to inequalities in the ground, and *a flexible hose or telescopic conduit* to convey grain from the seed box to the tubular boot without permitting the connection between the seed box and the tubular boot *to be broken or interrupted* by the movements of the shoe or runner while following the undulations of the ground. Are not these features essential to any practical shoe drill?

"A. Yes."

Mr. Fowle, complainant's sales manager, in his last deposition in the case taken in rebuttal, had his attention directly called to Mr. Bond's enumeration of essential features, and

he does not question the importance and essentiality of any of them, but explains, in effect, that they should be supplemented by the *Hoyt* spring pressure device. This will be plain from the quotation of a few questions and answers on the cross-examination of Mr. Fowle. On page 1041 we asked him:

> "X-Q. 15. Your attention has been called to the twelve enumerations given by Mr. Bond in his answer to Q. 11 of his deposition, in which he stated things that in his opinion were essential or important in the construction of a modern or up-to-date shoe drill. I wish you would look at each of these enumerations if you have not already carefully examined them, and state if it is not a fact that the things enumerated by Mr. Bond are essential or important in the construction of a grain drill at the present date to make the same satisfactory and salable.
>
> "A. I have read them through. As applied to the type of grain drills of which the Dowagiac, McSherry and the other machines are examples, as mentioned by Mr. Bond just prior to his first group of essentials, I believe that they are essentials of such a construction. . . ."

From the above it will be seen that Mr. Fowle substantially agrees with Mr. Bond in his twelve enumerations of essential features and combinations that are contained and embodied in the Dowagiac, the defendants', and other modern up-to-date drills. He nowhere says that any one of such enumerations is *erroneous* or that the combinations or things specified in each should be *omitted* or dispensed with in making a practical, successful and saleable drill, like the Dowagiac or the defendants' infringing drills. He simply, in effect, enumerates the spring pressure device of the Hoyt patent sued on as another essential, or essential feature. That it was not an *essential*, however, is shown by the fact of the sale of thousands and thousands of shoe drills in the Northwest territory and in competition with the Dowagiac which were not equipped with the Hoyt spring pressure device at all, but with coil spring pressure devices, like the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, and other shoe drills. Be-

sides, shoe drills were made and sold years before the Hoyt invention—by the complainant, among others. If this does not show the dispensable and non-*essential* character of the Hoyt spring, what can? This, then, brings us to a proposition of fact that may be thus expressed:

The complainant's Dowagiac and the defendant's infringing drills were composite machines embodying at least twelve essential and non-dispensible ideas and features which were old in the art prior to the Hoyt invention and which furnished the body or foundation for such invention; that without these prior ideas and features the Hoyt invention would be useless for any purpose; that these ideas and features were useless without the presence of the Hoyt invention; and that they were free and open to the public at the commencement of the infringement.

Mr. Bond, in addition to being an expert in patent causes, is a solicitor of patents with large experience in the Patent Office. In answering question 2 he says that he has been engaged in the business of soliciting patents for more than thirty years and that he has prepared and prosecuted many hundred applications for patents on mechanical devices, machines and appliances. He says that he has had occasion many times to examine and observe the operation of different machines and apparatus for the purpose of preparing the specifications required in the procuring of patents. He has thus become unusually well qualified to express an opinion as to whether any given arrangement or combination involved or required invention. After his twelve enumerations of important and essential features and arrangements in shoe drills, when he came to express his conclusion, at the end of his answer to Q. 11, he says (p. 762) that "all of the above combinations were, in my opinion, at one time in the development of the grain drill art, inventions of a most important

and valuable character—not merely mechanical expedients, but *inventions* forming proper subjects for good and valid patents at the dates when they were introduced into the art respectively." He gives this as his judgment and opinion based upon more than thirty years' experience in dealing with such matters. No witness on the part of the complainant expressed any *different* opinion. No witness differs with him. Mr. Fowle, in his last deposition, was asked specifically to consider Mr. Bond's enumeration of important and essential features and combinations, and did so, but nowhere does he express the opinion that the combinations described in the twelve formulations of Mr. Bond were *not* inventions at the date of their introduction into the grain drill art. No other witness was asked in reference to them. Mr. Bond's opinion, therefore, that they constituted inventions and the proper subjects for letters patent at the time they were introduced stands uncontradicted and unquestioned.

A little reflection, it seems to us, will satisfy any one of the correctness of Mr. Bond's conclusion and opinion as to the inventive and patentable character of the features, arrangements and combinations described in his twelve enumerations.

At some day in the art there were no grain drills. If we carry our minds back to that period and then conceive of a man getting up a combination described in the first formulation—carrying wheels adapted for traveling over the ground, an axle for the carrying wheels, a supporting frame mounted on the axle by which the other appliances of the machine are carried, a tongue for the attachment of the team, a shoe furrow opener, a seed box and a conduit between the seed box and the furrow opener for conveying the seed into the furrow —can we for a moment doubt that he had made an invention and that it was the proper subject of a patent? Such combination, however, does not include a *force* feed or anything to

positively and affirmatively feed the grain from the seed box, and so prevent all question and uncertainty as to the deposition of the desired quantity. An inventor in the art conceives the idea expressed in the second formulation—a seed box and a *force* feed for the grain from the seed box. It may have been the same man that got up the first combination, or it may have been another. It is a matter of indifference. But can we doubt that when means were arranged in the feed box for *positively,* constantly and invariably forcing the seed out of the box instead of depending on uncertain means, an invention and important contribution to the art was made? But after that arrangement had been secured the desirability of means for *adjusting* the force feed so that it would feed a regulated and desired quantity of seed, whether large or small, would manifest itself. Some one, whether the same party or another, added to the machine a means for *regulating* and *adjusting* the force feed so that its operations could be controlled, and exactly the quantity of seed desired delivered to the grain spouts or tubes. Who can question that this addition to the machine was an invention and constituted the subject for a valid patent at the date it was introduced into the art? And thus we have the arrangement of the third formulation—a seed box and an *adjustable* force feed for the grain from the feed box. But the force feed is arranged in the box and is covered by the seed. It is hidden and invisible. And while the art, as advanced to the third formulation, permits it to be adjusted and regulated, yet how is the operator to *know* just when he has secured the *exact and desired* adjustment required for seeds of different kinds and sizes? He could tell, no doubt, by experimenting. After making a change in the adjustment he could start up his machine and stop and examine the quantity of seed delivered. If not enough, he could adjust again so as to deliver more. If too much, he could readjust so as to deliver less. Thus by experimenting and trying he could finally reach the desired condition of ad-

justment required to secure the best results. How convenient, however, would it be to have means *outside* of the box, *visible*, so that when an adjustment is made the degree and quantity of that adjustment would be indicated to the eye of the operator! In this way, without trying, without experimenting, he could see at a glance when the exact and desired adjustment had been secured for the particular kind of seed being planted, and so the same or another party added to the combination means for *indicating* on the *outside* of the box and to the *eye* of the operator, the degree of adjustment effected with each change, so that instantly, and without uncertainty he could know that the desired and required quantity of seed would be delivered and deposited. And thus we come to the fourth feature or combination in the Dowagiac and McSherry drills, as formulated by Mr. Bond—an accurate *gauging* of the cups and wheels for the feed and an *indicator* for enabling the operator to readily and quickly change the amount of seed or grain discharged by each cup and feed wheel. Can any one doubt that this was invention and constituted patentable subject-matter?

And so we might go through all of the formulations enumerated by Mr. Bond and conceive of the time when the several arrangements and combinations that he describes were *unknown* in grain drills, and of the time when each was *introduced* and took its place as a permanent feature and combination in the grain drill art. Each enumeration will obviously, or on a little reflection, compel the opinion and judgment that at one day *it did not exist* and that when it was introduced it *constituted an invention* which could have been made the subject of a valuable and important patent. Whether each of these combinations and arrangements, or any of them, was made the subject of claims in a patent is a matter of no importance. We have not attempted to ascertain. The decisions of the courts make it immaterial. They say that an ap-

portionment must be made between the patented feature and the other features and inventions contained in the machine on which the patented invention forms a part, *whether* such other features and inventions are patented or *un*patented—covered with patents or free and open to the public.

Without these various features and combinations enumerated by Mr. Bond and agreed to by Mr. Fowle, as essential and indispensable requisites to the Dowagiac and defendants' drills, where would the Hoyt invention be? These essentials *do not embrace and include it*, and yet without *them* as a foundation, the Hoyt invention could not exist, or perform a single useful function, or have any utility whatever. These essentials cannot be ignored and all the benefit, advantage and utility of a grain drill attributed to the man who contributed the alleged thirteenth useful feature to the drill—the Hoyt spring *rod* pressure device—to the disregard of those who contributed the twelve prior essential and indispensable foundation features.

To show that the features, combinations and inventions enumerated by Mr. Bond were *essential and indispensable* to the modern, successful, salable grain drill, like the Dowagiac and the defendants' drill, and that such essential and indispensable features were not included in or covered by the Hoyt invention, we asked Mr. Bond (p. 764) and he testified as follows:

> "*Q.* 14. What would be the effect on a shoe drill as to its practical operative or salable character if there were removed from it any of the twelve essential or important arrangements or combinations that you have enumerated in your answer to question 11?
>
> "A. The removal or omission of any of the twelve enumerated essential combinations or inventions would destroy the capacity of the machine to do its work, with the possible exception that the omission of the adjusting means and indicating means, mentioned in my third

and fourth enumerations, would not impair the ability of the machine to open a furrow and deposit grain, but such omissions would be a detriment and injury of a serious character, because without adjusting means for regulating the amount of grain discharged and to enable the machine to be used with different grains or seeds varying in size, the operator would be unable to plant successfully different quantities and different kinds of grain or seed, and without the indicator by which the cut-off or gauging of the opening for discharging the seed can be quickly determined and the proper adjustment shown, the operator would have to experiment and set and reset the discharging devices even when adjusting means were used, in order to obtain the proper cut-off or gauge for the opening. In view of the trouble and inconvenience which would result from the omission of an adjustment for the force feed and indicating means for quickly determining the requisite opening for discharging the seed, my third and fourth enumerations are what may be termed *commercial* necessities and invaluable adjuncts in practical and successful shoe drills.

"Q. 15. If you remove from the Dowagiac or McSherry or Peoria shoe drills the inventions and combinations in your twelve enumerations given in answer to question 11, what is there known to the art to take their place so as to still have a practical and operative shoe drill?

"A. Not anything.

"Q. 16. On the other hand if the spring pressure device of the Hoyt patent No. 446,230, be removed, what, if anything, could be employed in its place so as to still retain a shoe drill of practical and operative character?

"A. The coil spring properly located and supported as disclosed in the art prior to the date of the Hoyt invention and an arrangement of long spring as applied disclosed in some of the patents in evidence issued long prior to the Hoyt invention.

"Q. 17. What then do you say as to the dispensability or indispensability in a practical and successful shoe drill of the inventions and combinations contained in your twelve enumerations in answering question 11, and the dispensability or indispensability of the particular spring pressure device of the Hoyt patent in suit?

"A. The inventions or combinations embraced in the twelve enumerations referred to in the question are, in

my opinion, indispensable in the construction of a practical and successful shoe drill. On the other hand the spring called for in the Hoyt patent could be dispensed with and other pressure devices used in place thereof so as to still have in the drill all of the essential inventions.

"Q. 18. I ask you to particularly examine and consider the combinations called for in the Hoyt patent in suit and particularly specified and described in the claims thereof and state whether or not, in your opinion as a patent expert familiar with the drawings, specifications and claims of patents, you find the inventions described in your twelve enumerations in answer to question 11, called for or described in the claims of such patent or any of them, irrespective of other devices and means forming necessary parts or elements of the combinations specified and described in the claims.

"A. No, not in and of themselves.

"Q. 19. Please state your opinion as a patent expert as to whether or not the public and manufacturers, sellers and users of grain drills had the right on, say the first day of January, 1896, not to mention an earlier date, to manufacture, sell and use shoe drills containing or embodying in them the inventions described in the twelve enumerations of essential and important features and combinations set out in your answer to question 11, notwithstanding the existence of the Hoyt patent in suit.

"A. They had the open right to make, use and sell grain drills containing the twelve essential and important features and combinations enumerated by me, as, at the date mentioned in your question, such features and combinations were public property and free for everybody to use and in fact had so been for a considerable time."

If the above testimony is true, and nobody has questioned it or expressed a contrary view, then the court should accept and apply it. It seems preposterous, in the face of it, to hold that all the utility, value, advantage and profit on the sale of shoe drills should be awarded to the man that merely contributed a *dispensable* invention, and disregard the twelve men who contributed *in*dispensable inventions, to give *all* the profits to the man whose invention can be *left out* of the drill

and nothing to the twelve men whose inventions *cannot be* left out—in short, to subordinate the major elements of the drill to the minor.

But the complainant has made no attempt whatever in this case to apportion between the *Hoyt* invention and the *other important and essential inventions*, features and combinations contained in the Dowagiac drill and in the infringing drills sold by the defendants, nor to show that it was impossible to make an apportionment, nor to show how much the addition of the Hoyt spring rod pressure device increased the value of the drills as to their efficiency or salability over old but existing and competing drills provided with the old but existing and competing styles of pressure devices, as for instance, the *coil* spring pressure device. If the defendants have made profits, the complainant has failed to show itself entitled to *any portion* of them, because it has failed to distinguish, apportion and segregate *from* the total profits the particular *portion* which is to be credited to the Hoyt invention. If the defendants have made profits, they have arisen from the sale of the *concrete* machine considered as an entirety, and such profits are referable to *all the inventions and essential features* contained in the machine, considered as a whole.

We have pointed out twelve features and inventions contained in the defendants' infringing machines that were essential and indispensable to the machine as a practical, operative and salable structure and without which it could not have been sold. What other inventions of a minor character may have been involved, we know not and we care not. These twelve *essential and indispensable* ones were there. How preposterous to say that all the profits the defendants have made, if any, from the sale of their machines, are to be credited to the *Hoyt* spring pressure device—a device *which was dispensible*, as shown by the fact that shoe drills were made,

sold and used years before it was invented, and that 20,000 to 30,000 other shoe drills without it were sold during the infringing period *in competition* with it—and none of such profits credited to these twelve essential and basic inventions, without which the defendants' machines could not have been sold or operated. If there ever was a case requiring the application of the doctrine of apportionment of profits and damages, such a case is presented by the evidence and facts of this.

Before the doctrine of the apportionment of profits and damages is applicable to a case, however, the defendant must show that the *patented* machine, if the profits on its manufacture and sale are asked as damages growing out of lost sales, or that the *infringing* machine, if the defendants' profits on it are claimed, is a *composite* machine—made up of various features or inventions *outside* of the patent sued on which probably contributed to the utility or salability of the machine. When this has been shown by the defendant, the burden becomes imposed on the complainant to produce proof apportioning the profits or damages between the patented feature and the other features embodied in the machine, or that owing to the defendants' fault no apportionment is practicable or possible. The necessity for this *prima facie* showing by the defendant to entitle him to invoke the doctrine of apportionment is recognized in various cases, but we will only quote the language of the Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards, in *Canda Bros.* v. *Michigan Malleable Iron Co.*, 152 Fed., 181, where the court, in speaking of the doctrine of apportionment, says that

> "Before it can be applied, it is incumbent on the defendant to prove that the peculiar characteristic features or some substantial part of such peculiarities of the former patents were embodied in the patented articles sold, and that they were of such a character that they probably contributed to the profits. *Elizabeth* v. *Pave-*

ment Co., 97 U. S., 126, 24 L. Ed., 1000. On this being shown, the burden of proof is devolved on the party seeking to recover the profits to prove what part of the entire profits are due to the use of his own invention. He must make the separation of values and show to the court how much is his rightful proportion. *Garretson* v. *Clark*, 111 U. S., 120."

The defendants in preparing their record in this case carefully met the requirement of such decisions as the one above and showed by affirmative testimony that the *essentials* of the Dowagiac drill and the infringing drills were old and pointed out the very prior patents that showed and described such essentials. But in addition to our own expert witness, Mr. Bond, we asked the complainant's sales manager, Mr. Fowle, if the features and combinations enumerated were not essentials of the Dowagiac and defendant's drills and he admitted that they were essentials. Mr. Swayne, the complainant's general agent for the Northwest, also admitted that the things pointed out by Mr. Bond were essential to the operativeness and salability of the drills. Thus there is perfect accord and agreement on *both* sides that in the Dowagiac and defendant's drills there were a dozen or so features and combinations that were *vital* to the construction, practicability, utility and marketability of the drills, that could be *pointed out* and segregated by definite description, that could *not be dispensed* with, that formed the *foundation* on which the Hoyt improvements were superposed, that were *not the invention* of Hoyt, and that could exist without the Hoyt invention, but without which the Hoyt invention could not exist. Thus the necessity of apportionment was established and the burden shifted to the complainant, but no effort was made to meet it or to show that it could not be met by reason of any act or fault on the part of the defendant. Instead, the complainant insists that the *form* of the Hoyt claims, as combination claims, relieves it of the necessity of making apportionment of profits and entitles it to all.

The complainant claims that in the suits against the McSherry Company and the Brennan Company the Circuit Court of Appeals for the Sixth Circuit awarded the complainant all the profits without applying the doctrine of apportionment. But in those cases the defendants had made no such showing of *facts* as have the defendants here. They did not furnish *affirmative* proof showing the essential features and combinations in the drills in question attributable to *others*, as the defendants have done in this case, nor admissions by the complainant's sales manager and its general agent that such features and combinations were essentials. No such testimony was furnished in the McSherry and Brennan cases corresponding to the deposition of Mr. Bond in this case, and no questions were asked Mr. Fowle and Mr. Swayne in those cases such as were asked them in this case and quoted above, to show the existence of essential features and combinations in the Dowagiac and defendants' drills *outside* of the Hoyt invention, and no offer was made in those cases of the Marsh 1861 patent, the McSherry 1864 patent, the Wheeler & Tuttle 1867 patent, the Patton 1868 patent, the Wheeler 1869 patent, the Brennan 1877 patent, and the Smith & Thomas 1878 patent, as was done in this case, and by which each of the twelve essential features and combinations enumerated by Mr. Bond, were shown to be *free and open* to the public, and so admitted to be by Mr. Fowle and Mr. Swayne. In short, the defendants in the McSherry and Brennan cases did not make the necessary *showing* to lay the foundation for the application of the doctrine of apportionment. And in the McSherry case the Court of Appeals, 160 Fed., 950, cites the Canda Bros. case, from which we have quoted above, as *justifying* the absence of apportioning testimony by the complainant—no foundation had been laid, *no prima facie* case made, *requiring* the complainant to apportion—and in the Brennan case the Court of Appeals, 162 Fed., 475, says that "The parts of a drill consist of a carrier, a seed box or reservoir, and the seeding appara-

tus. It is to the latter that the attention of inventors has been principally directed. The carrier and the seed box are old and simple. Of them it is enough to say that no one appears in this case to have a patent on them"—that is, there was no testimony to show that these parts of the grain drill were old in the prior art, open to the defendants to use, and not the invention of Hoyt.

From the above statements of the court it is apparent that the defendants presented no careful analysis of the Dowagiac and defendant's drills to formulate and point out the *essential* features and combinations which they contained in *addition* to the Hoyt invention, nor patents *showing* such features and combinations, nor showed from the complainant's *own* officers and agents, Mr. Fowle and Mr. Swayne, that such features and combinations *were* essentials, as the defendants have done in this case. But aside from the statement of the court, we state it as a fact, based on a careful examination of the printed records in both the McSherry and Brennan cases, that neither of those cases contained either the *admissions* of Mr. Fowle and Mr. Swayne as to the presence in the Dowagiac and defendants' drills of the essential features and combinations, enumerated above, nor the *patents* mentioned above for showing such essential features and combinations, nor expert or *other* testimony pointing out, formulating, and segregating from the Hoyt invention the essential features and combinations enumerated by Mr. Bond and Mr. Swayne. These are facts and testimony presented to *this* court and not before the court in the McSherry and Brennan cases that distinguish this case from those, and that imperatively require an application of the doctrine of apportionment in this case, so that, in the absence of evidence making the apportionment, the complainant was only entitled to nominal damages.

In addition to the lack of proper foundation in the McSherry and Brennan cases to require the complainant to apportion

the profits, the Court of Appeals for the Sixth Circuit in the Brennan case sought to distinguish the case before them from the Garretson-Clark case—the leading though not the first case on the doctrine of apportionment—by suggesting that the doctrine of apportionment has no application to a patent for a *combination* of elements such as the Hoyt patent. As this is practically the first enunciation of this reason for avoiding the application of the doctrine of apportionment, it ought to be considered most exhaustively before it is adopted as a settled principle of patent law. To fully present it, we will quote the language of the court in the opinion written by Judge Severens in the Brennan case, beginning on page 474 of the report, 162 Fed., in which it is published. The court says:

> "The fundamental proposition on which the report in respect to the profits rests is that the whole of Hoyt's invention and patent resides in the spring pressure device and does not extend to other parts of the drill. From this he concludes that only this particular of the drill can be considered in estimating the profits, and that all the other parts might be lawfully made and sold by the defendant without any responsibility to the plaintiff. This is a specious argument; but it is not in accord with the established principles of law regarding patents on claims for combinations of several elements, and when applied to this case, results in a radical error. The claims of the patent in suit are not restricted to single things, but some of them—the first, for instance—include the several elements which go to make up the seeding part of a drill, in combination. It covers them all as one whole. Every one is made material by including it in the combination. The spring devices are not thereby patented. For the purpose of the claim and the patent thereon, they are all on the same footing with all the other parts of the drill, however old and common they may be. Any one might make and sell each and every part, or any lesser or larger combination of such parts, including the spring device, without infringing the patent, provided, of course, they are not intended to contribute to the making up of the entire combination

covered by the patent. But one part in a combination is no more patented than another. All in association are patented.

"The parts of a drill consist of a carrier, a seed box or reservoir, and the seeding apparatus. It is to the latter that the attention of inventors had been principally directed. The carrier and the seed box are old and simple. Of them it is enough to say that no one appears in this case to have any patent on them. It is pertinent to cite what was said by Mr. Justice Grier in *Seymour* v. *McCormick*, 16 How., at page 488, 14 L. Ed., at page 1024:

"'It must be apparent to the most superficial observer of the immense variety of patents issued every day that there cannot, in the nature of things, be any one rule of damages which will apply equally to all cases. The mode of ascertaining actual damages must necessarily depend on the peculiar monopoly granted.'

"The case here is not for an improvement upon an other article, which does not cover that other article, but only the improvement made upon it. The patentee cannot in such case extend his invention over the thing improved if the latter is patented. If not, he may appropriate it, as others of the public may. The distinction is well illustrated, by the improvement of the harvester in *Seymour* v. *McCormick*, 16 How. 480, 14 L. Ed. 1024. When, therefore, the defendant sold one of the plaintiff's machines he sold that which in all its associated parts was covered by the patent; and a Dowagiac drill, without the Hoyt patent combinations, would be but the fragment of a drill and have no distinctive character. The invention was not an addition to an otherwise complete machine. . . .

"We do not by any means impugn the general rules laid down in *Garretson* v. *Clark*, 111 U. S. 120, 4 Sup. Ct. 291, 28 L. Ed. 371, and the cases which have followed it, one of which is that, when the infringement consists in the making or using of articles improved by his own invention the plaintiff must prove the extent of the enhancement of profits by the use of his own, as distinguished from those due to the article improved. But we are of opinion that the circumstances of this case, first, in that in the patented combination no other invention inheres, and that the combinations are not for improve-

> ments merely, but substitutes for essential congeries in a drill, and, secondly, that the infringement has been so conducted as to render a distinction of profits impossible, are controlled by principles quite independent of those involved in *Garretson* v. *Clark*, and that the plaintiff was entitled to a decree for the profits of the sales of the infringing drills."

We have quoted from the opinion of Judge Severens at length so that this court will have the reasoning of the court in the Brennan case in the most convenient shape for consideration.

Aside from the reflection of the court on the *character* of the infringement in that case, which appears in various parts of the opinion, and which the courts deciding this case have held have no applicability to it, the court excludes the application of the doctrine of apportionment from the Brennan case on the ground that the Hoyt claims are for *combinations* which include in effect the entire drill, or to use the words of the court, "include the several elements which go to make up the seeding part of a drill in combination." This introduces into the law of patents the proposition that the doctrine of apportionment is not applicable to patents which claim novel parts *in combination with the entire machine.*

With due submission to the learning of the court which pronounced the decision in the Brennan case, and which this court is asked to follow, we insist that the position of the court is not expressive of the law, is not reconcilable with the decisions of this court and of the Circuit Courts in other cases, introduces an untenable exception to the settled principle of apportionment, is not supported by the reason and philosophy of the rule, and unless corrected will lead to oppression, injustice and wrong, and this we propose to show.

First Reason Why the Decision in the Sixth Circuit Was Erroneous.

The doctrine of apportionment has not been applied merely to patents claiming a single device, but as well to patents claiming *combinations* of devices which *included the entire machine*—the very condition which the court considered to exist with the Hoyt patent and made a ground for the non-application of the doctrine of apportionment. This will appear from an examination of many cases.

In *Blake* v. *Robertson*, 94 U. S., 733, this court, in 1876, had before it a claim, which is quoted on page 729, reading as follows:

> "A combination of a stone breaking machine, of upright converging jaws with a revolving shaft, and mechanism imparting a definite reciprocating movement to one of the jaws from the revolving shaft, the whole being and operating as set forth."

It will be noted that the above claim, as stated by this court, is for a *combination* including the *entire machine and all of its parts*, just as the court in the Brennan case considered the Hoyt claims to be, and yet the court applied the doctrine of apportionment in the following words:

> "The inventions covered by other patents were embraced in those machines. It was not shown how much of the profit was due to those other patents, nor how much of it was manufacturers' profit. The complainant was, therefore, entitled only to nominal damages. This the court gave him. It was all the state of the evidence warranted. It would have been error to give him more."

In *Keystone Mfg. Co.* v. *Adams*, 151 U. S., 147, this court, in 1893, had before it a claim, which is quoted on page 142, reading as follows:

> "The combination with a corn sheller of a series of

wings, wheels, or projections, so arranged on a shaft as to revolve in the same direction which the corn is running, and so placed relative to the throat as to force into the machine all misplaced or hesitating ears, substantialy as specified."

It will be noted that the above claim is for a *combination* in which a *corn sheller* forms an *integral element* of the combination, and which claim covers the *entire* machine. Yet this court, after stating the right of the complainant to a recovery of profits in equity cases, said:

> "It is unnecessary, in this opinion, to review the numerous cases, some at law, others in equity, wherein this court has considered various aspects of this question. It is sufficient to say that the conclusion reached may be briefly stated as follows: It is competent for a complainant, who has established the validity of his patent and proved an infringement, to demand, in equity, an account of the profits actually realized by the defendant from his use of the patented device; that the burden of proof is on the plaintiff; that where the infringed device was a *portion only* of defendant's machine, which embraced inventions covered by patents other than that for the infringement by which the suit was brought, in the absence of proof to show how *much* of that profit was due to such *other* patents, and how much was a manufacturer's profit, the complainant is entitled to nominal damages only. *Seymour* v. *McCormick*, 16 How. 480; *Rubber Co.* v. *Goodyear*, 9 Wall. 788; *Mowry* v. *Whitney*, 14 Wall. 620; *Elizabeth* v. *Pavement Co.*, 97 U. S. 126."

In support of the above, this court quoted from *Garretson* v. *Clark* that portion of the opinion which says that "the patentee must in every case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features."

In *McCreary* v. *Pennsylvania Canal Co.*, 141 U. S., 459, this Court, in 1891, had before it a claim which is quoted on page 460, reading as follows:

> "The combination of the two boats A and B, the steering chain *a* passing around shieves or pulleys, and around the windlass C, or its equivalent, the overhanging guard or bumper on the stern of the forward boat, and the chain D attached to opposite points on the stern of said boat and to the stem or central part of the bow of the rear boat, so as to form a universal joint between them, and keep them coupled and centred, substantially as shown and described."

It will be noted that the above claim is for the combination of the *entire machine*, consisting of two boats and the means for connecting them together, so that they could be towed in train and navigated or steered as a single boat. It appears that the same patentee had taken out another patent about three months before the patent in suit, and the defendant insisted that the patentee must apportion between the two, notwithstanding his claim was for the *entire* combination. This court, on page 462, the italics being ours, says that

> "The Master found that 'the combination of the patent in suit and that of the prior patent are practically identical in function and result, and are identical in construction, save only as to the one particular element, the centering device. As, therefore, the combination of the patent in suit is one, the sole invention and novelty of which consisted of a *single element*, the profit which complainant is entitled to recover from the defendant in this case is that which he may have shown to have accrued to it from the use of substantially that *new element* in substantially the combination in which he has described and claimed it.' Exception was taken to this finding, upon the ground that the finding contained an 'erroneous construction of law, if it means that the complainant is not entitled to recover the entire profits which have accrued to the defendant from

> the use of boats containing the invention described and claimed in the patent in suit because of anything shown or described, but not claimed, in said prior patent of the complainant, numbered 125,684.' Plaintiff claimed, and offered evidence tending to show, that defendant had made a large sum in savings by the transportation of coal in its infringing double boats in place of single boats, and asked that defendants should be held accountable to him for these savings, less the cost of applying the couplings to the double boats, as its profits from the use of this improvement."

It will be noted that the position of the Master, as stated by this court, was that there should be a segregation or apportionment of the advantages or profits resulting from the change or modification introduced *by a single element* into the combination; or, as the Master expressed it, the advantages "which he may have shown to have accrued to it from the use of substantially that *new* element in substantially the combination in which he has described and claimed it," although the patentee was claiming the profit on the *entire* machine which he had *included* in his combination claim. The Master and the court below awarded the plaintiff nominal damages only. This court, on page 463, said:

> "There is no doubt of the general principle that, in estimating the profits the defendant has made by the use of the plaintiff's device, where such device is a mere improvement upon what was known before, and was open to the defendant to use, the plaintiff is limited to such profits as have arisen from the use of the improvement over what the defendant might have made by the use of that or other devices without such improvements. This is a familiar doctrine announced by this court in a number of cases. *Seymour* v. *McCormick*, 16 How. 480; *Mowry* v. *Whitney*, 14 Wall. 622; *Littlefield* v. *Perry*, 21 Wall. 205; *Elizabeth* v. *Pavement Co.*, 97 U. S. 126; *Garretson* v. *Clark*, 111 U. S. 120. The important question in this connection is, whether, in considering what was already known, and open to the defendant to use, we are to include the device shown in

patent numbered 125,684, issued to Elijah and John McCreary about three months before the patent in suit."

After discussing the matter, this court, on page 467, announced their conclusion in affirming the decree, as follows:

> "We think, therefore, that for the purposes of this suit the earlier patent must be deemed open to the defendant, and no damages having been proved for the infringement of the improvement under the later patent, considered separately, the finding of the court below was correct."

In the above case, it will be noted that this court applied the doctrine of apportionment, notwithstanding the claim was for a *combination* including the *entire machine* or apparatus as elements, and, in order to determine just what improvement the patentee had made, compared the patent sued on with a *live* or existing prior patent only three months old, from which it appeared that all the patentee had done was to introduce *one or two* new elements into the machine covered by his combination claim.

In *Maier* v. *Brown*, 17 Fed. Rep., 730, Judge Brown, afterwards Justice Brown, had a claim before him, not quoted in the opinion, but which we have taken from the patent and which reads as follows:

> "The combination, with the frame of a trunk, of the strips or pieces *a a*, substantially as and for the purpose set forth."

It will be noted that the above claim was a combination claim in which the main essentials of a trunk were included as elements. Notwithstanding the combination form of the claims, however, Judge Brown applied the doctrine of apportionment to it, and, among other things, said:

> "There is no doubt whatever of the general proposi-

tion that the patentee of an improvement is limited in his recovery to such profits as may be properly apportioned to the use of his improvement. He can only recover profits upon the entire article when such article is wholly his own invention, or when its entire value is properly and legally attributable to the patented feature. *Seymour* v. *McCormick*, 16 How. 480; *Mowry* v. *Whitney*, 14 Wall. 620; *Littlefield* v. *Berry*, 21 Wall. 205; *Elizabeth* v. *Pavement Co.*, 97 U. S. 126; *Garretson* v. *Clark*, 15 Blatchf. 70; *Zane* v. *Peck*, 13 Fed. Rep. 475; *Pitch* v. *Bragg*, 16 Fed. Rep. 243."

In *Hunt Bros. Fruit Packing Co.* v. *Cassidy*, 53 Fed. Rep., 261, the United States Circuit Court of Appeals, for the Ninth Circuit, Judges McKenna, Ross and Knowles, had the second claim of the Cassidy patent before them, which read as follows:

"In combination with a drier, the stationary posts K, provided with spring catches *n n*, and the vertically moving posts L provided with spring catches *n' n'* and suitable mechanism for operating the posts L, substantially as and for the purpose set forth."

It will be noted that the above claim is for a combination which includes the *entire drier* as an element of the claim. Yet Judges McKenna, Ross and Knowles had no difficulty in applying the doctrine of apportionment, saying:

"The evidence as to damages consisted of evidence of a license fee which he had fixed for both of his devices, and evidence of the profit to be made in manufacturing fruit driers, containing both of these improvements, and also certain unpatented features. The authorities are full upon the point that a party cannot recover as damages the profits to be derived from the manufacture of the whole of a machine, when only a portion of the same contains a patented feature. *Garretson* v. *Clark*, 111 U. S. 120, 4 Sup. Ct. Rep. 291; *Dobson* v. *Carpet Co.*, 114 U. S. 440, 5 Sup. Ct. Rep. 945; *Philip* v. *Nock*, 17 Wall. 460."

But to multiply instances is wearisome. They show that the *form* of the claim of the patent is not material, cannot give rights larger than the law allows, and can in no way modify the legal rights of the parties. The material thing is the *fact*, and the court will look through the *form* of a claim to see what the patentee *actually contributed* to the art—to see whether he invented a *new machine* or a *new part* or device to be used on an *old* machine.

In view of the above decisions, where the courts applied the doctrine of apportionment, notwithstanding the claims were in the form of *combination claims* which included the *whole machines* to which they respectively belonged, it is plain that no exception should be made to the doctrine of apportionment, as was done by the Court of Appeals for the Sixth Circuit in the Brennan case on the ground that the claim of the patent under consideration happened to be in the form of a combination claim calling for the entire machine in the enumeration of the parts or elements of the combination.

Second Reason Why the Decision in the Sixth Circuit Was Erroneous.

The error of the court in the Brennan case, in exempting combination claims from the doctrine of apportionment, will be further manifest when we reflect that, if such claims be exempt, all that is necessary for a patentee of some small and unimportant improvement to do, to avoid the doctrine of apportionment and to enable him to recover the entire profits on the complete machine to which his improvement pertains, is to draw his claim in the form of a combination, so that his claim will enumerate and call for the combination of his device or improvement *with the entire machine*. The inventor of a locomotive whistle would claim it in combina-

tion with the locomotive; and the inventor of a driver's seat would claim it in combination with the reaping machine, and thus draw to himself the profits resulting from the manufacture and sale of the entire locomotive or the entire reaping machine. In this way a dozen or a hundred different inventors of different small devices and improvements, by framing their claims as *combination* claims including the entire machine, would each be entitled to recover the entire profits made by the unlucky manufacturer from the manufacture and sale of the entire machine in which the device or improvement had been incorporated, on the ground that the entire machine was included in the elements of the combination claim. Indeed, illustrations of the way the rule laid down by the court in the Brennan case would work, are afforded by several of the patents introduced in this case by the complainant, as a few quotations from such patents will show.

The seventh claim of the Packham patent, No. 429,320, of June 3, 1890, p. 1242, is a combination claim covering substantially the entire machine. It reads as follows:

> "The combination, with the main frame and hopper of a grain drill, of a pressure bar having rocking arms journaled on a transverse tubular bar connecting the ends of said frame, a ratchet stand and lifting lever journaled on said tubular bar, said lifting lever being pivotally connected to said pressure bar and said ratchet stand being provided with an extended portion connected to said hopper, substantially as specified."

The first claim of the Van Brunt patent, No. 461,292, of October 13, 1891, p. 1285, is a combination claim covering substantially the entire drill. It reads as follows:

> "In a grain drill composed substantially of a series of runners arranged to admit of their conformity to the face of the soil and provided with boots through which the seed is distributed, and the seed hopper, feed

mechanism, frame, and hinged tongue, a means for tilting the runner during the operation of the machine independent of the ordinary lifting device, and consisting, essentially, of a lever and locking mechanism or their equivalent operating upon the hinged tongue and frame, substantially as described, whereby the runners in gangs or all at once may be placed and retained at any angle desired."

The second claim of the Howard patent, No. 488,072, of December 13, 1892, p. 1220, is a combination claim covering substantially the entire machine. It reads as follows:

"The combination of a cranked axle mounted on wheels, a frame pivotally supported on its cranked portion, and a forwardly extending tongue secured to the frame, a hopper on the frame, furrow-opening devices pivoted to the frame and carrying spouts communicating with the hopper, a rack on the frame and a lever on the axle engaging this rack, arms H, secured on the axle and extending forwardly therefrom and carrying upwardly extending rods I, a presser-bar carried by these rods, and spring-surrounded rods connecting the presser-bar to the furrow-opening devices, substantially as described."

The fourth claim of the Van Brunt patent, No. 490,728, of January 31, 1893, p. 1298, is a combination claim which covers substantially the entire machine. It reads as follows:

"In a grain drill, the combination with an axle, carrying wheels mounted on said axle, a reach and a seed box or hopper, and a series of shoes, of a lever pivoted to the reach, a segment for retaining said lever in a locked position, an arm projecting from the axle, a rod connecting said arm with the pivoted lever, arms projecting downwardly and rearwardly from said axle, and draw bars connecting said last mentioned arms with the shoes, substantially as set forth."

The first claim of the Edwards' patent, No. 672,476, of

April 23, 1901, p. 1193, is a combination claim covering substantially the entire machine. It reads as follows:

> "In a seed drill, the combination with a frame and wheels, of a straight axle mounted in the hubs of the wheels and supported by the frame, crank arms secured to the axle, shoes pivotally connected with the frame, rod and spring connections between said shoes and crank arms, a segment secured to the frame and having a bearing for the axle, and a lever secured to the axle and having a latch or detent to engage the segment."

The above claims, quoted from five different parts, issued both *before* and long *after* the issuance of the Hoyt patent sued on, show that it is common to claim improvements, no matter how narrow and specific they may be, by claiming a *combination in which all of the main and operative parts of the drill are enumerated* as elements or parts. Indeed, the above claims *more fully* claim the *entire structure* of a grain drill than do the claims of the Hoyt patent sued on. Yet, upon the infringement of the above claims, a defendant would be liable for the entire profits arising from the manufacture and sale of the machine as a whole if the doctrine of apportionment is not applicable to combination claims, as held by the court in the Brennan case. Indeed, if, for example, the Brennan Company were sued for infringement of the Edwards 1901 patent last quoted from above, by the same complainant, the Dowagiac Company, as the assignee of the Edwards patent, and the *identical* machine, for the manufacture and sale of which the Court of Appeals awarded all the profits to the Hoyt patent, were found to infringe, the *same court* would, a second time, have to award the *same profits* to the same complainant as the owner of the Edwards patent on the ground that the Edwards claim was a combination claim covering substantially the entire drill and so not subject to the doctrine of apportionment. To such a miscarriage of justice may the Court of Appeals for the Sixth Cir-

cuit be led if it followed its own decision in the Brennan case!

And what is true of the patents from which the above claims have been quoted, and which are in evidence in this case, is equally true of probably a hundred other patents in the grain drilling art, where the particular device or improvement introduced by the patentee is claimed in combination with the main and operative parts of the machine. A little reflection, however, aside from the concrete examples of combination claims given above taken from patents in this case and in the same art, ought to be sufficient to show the legal error of attempting to exempt combination claims from the doctrine of apportionment, as was done by the court in the Brennan case, inasmuch as it would enable any inventor of a narrow and specific improvement to sweep in all of the profits arising from the manufacture and sale of the entire machine, if he has been shrewd enough to draw his claims in the form of a combination claim enumerating the parts of the entire machine, as well as his own specific addition, as parts or elements of the combination. And if such a doctrine receive the sanction of this court, it requires no special prescience to predict that solicitors of patents will be quick to avail themselves of the hint that if a patentee wants all of the profits he has nothing to do but to claim his new element, part or device in combination with all the machine to which it pertains.

Third Reason Why the Decision in the Sixth Circuit Was Erroneous.

As a matter of fact, the claims of the Hoyt patent, no matter how worded, are simply for an *improvement upon* grain drills, and are to be treated the same as other claims for improvements, and subjected to the same rules and principles for ascertaining profits and damages arising from their infringement.

The various decisions sustaining the Hoyt patent have treated the Hoyt invention as simply an *improvement upon existing grain drills* and not as a grain drill itself, as a few quotations from the principal decisions involving the Hoyt patent will show.

In *McSherry Mfg. Co.* v. *Dowagiac Mfg. Co.*, 101 Fed. Rep., 721, the United States Circuit Court of Appeals for the Sixth Circuit, Judges Taft, Lurton and Day, said:

> "Grain drills were old. Shoes and press wheels are elements found in other structures. . . . Hoyt was not a pioneer."

In the *Dowagiac Mfg. Co.* v. *Minnesota Moline Plow Co.*, 118 Fed. Rep., 139, the United States Circuit Court of Appeals, for the Eighth Circuit, Judges Sanborn, Thayer and Carland, said:

> "The function of the device in the Hoyt patent was to control the depth of the cut of the shoe by a regular pressure easily exerted by means of a lever, and by the same means to regulate the shoe in uneven ground, and to raise the shoe from the ground when not in use. The principle of the combination was old. The result attained old. . . . Hoyt, it is true, was not a pioneer."

Judge Thayer, in his dissenting opinion, expresses the same idea as the majority of the court in reference to the position of the Hoyt invention in the art, although in somewhat different language, saying:

> "Hoyt's patent, confessedly, does not cover a pioneer invention, but merely a new combination of old elements to accomplish a result which had previously been accomplished. . . . When the Hoyt patent was issued, what are termed 'shoe drills' were in common use, and various means had been employed by the manufacturers of such drills for applying pressure to the shoes, and for elevating them when the operator desired to do so."

In *Dowagiac Mfg. Co.* v. *Brennan & Co.*, 127 Fed. Rep., 145, the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards, said in discussing the Hoyt invention:

> "The objects which the inventor had in view were two-fold, first, to provide means for depressing the shoes of the drill to meet the requirements of its movements when in operation upon differing and uneven surfaces, and, second, to provide means for lifting the shoe and its attachments off the ground while the drill is being moved from place to place. There were in use devices for both these purposes, but they lacked the desired simplicity, convenience, and ease of management."

After enumerating some of the advantages of the Hoyt invention, the court, on page 147, said:

> "Some, perhaps all, of these advantages had, in a way, been supplied by the former art; but they had not, so far as we can see, been so completely gathered together or attained in so simple and useful a way."

These quotations from the three decisions by the Courts of Appeal show that the Hoyt invention is not to be considered as a "pioneer" one, that the "functions" which it performed and the objects which it accomplished were not new with him, and that the advantages, "*some*, perhaps *all*," had "in a way been supplied" by prior inventors. The courts, in the original decisions sustaining the patent, recognized that the improvement simply related to a *specific part* of shoe grain drills and that the body and main features of shoe grain drills were in existence and formed the foundation on which the Hoyt improvement rested, and without which the Hoyt invention would be useless.

All patents relating to mechanical subjects are either for an *original* machine or for an *improvement* on existing machines. The statute recognizes no other kind. Section 4686

of the Revised Statutes says that "any person who has invented or discovered any new and useful art, *machine,* manufacture or composition of matter, or any new and useful *improvement* thereof," etc., may have a patent, etc. Hence, under the statute, all patents for mechanical inventions *must* either be for an *original* machine or for an *improvement* on existing machines. Now, what is an improvement in the sense of the patent law?

In Section 210 Robinson says:

> "An improvement is an addition to or *alteration in some existing means,* which increases its efficiency without destroying its identity. It includes two necessary ideas; first, the idea of a complete and practically operative art or instrument, either natural or artificial, as the original to be improved; and, second, the idea of some *change in* such art or instrument, not affecting its essential character, but enabling it to produce its appropriate results in a more perfect or a more economical manner."

Walker on Patents, Section 16, says:

> "Machines and improvements of machines constitute the subject-matter of a majority of the American patents heretofore granted. A machine is a combination of moving mechanical parts, adapted to receive motion, and to apply it to the production of some mechanical result or results. An improvement of a machine may consist in an addition thereto, or in a subtraction therefrom, or in *substituting for one or more of its parts something different,* or in so rearranging its parts as to make it work better than before."

To apply these principles to the case in hand: Hoyt did not *invent* shoe grain drills. Nobody can claim that he did. He simply took the *existing* shoe grain drills as they had been invented and developed, at the date of his entry into the field, and made them better, if you please—improved them. He did not destroy the *identity* of the machine. It

remained a *shoe* drill still. He simply made a change in it "not affecting its essential character, but enabling it to produce its appropriate results in a more perfect or more economical manner," to use the language of Robinson, or in leaving off the weight or coil spring of preceding inventors for pressing the shoe into the ground, "subtracting therefrom," to use the language of Walker, and "in substituting for one or more of its parts—the weight or coil or bar spring furrow opener of prior inventors—something different"—the long rod spring pressure device furrow opener of his patent under consideration.

It thus appears that, measured by the definitions of machines and improvements, the Hoyt invention is an improvement on grain drills, and that his patent is for an *improvement*, as distinguished from an *original* machine. And this is consonant with the language of the Hoyt patent. In the opening clause Hoyt says that he has invented "certain new and useful *improvements* in grain drills," and in the next clause says that "this invention relates to new and useful *improvements* in grain drills commonly known as shoe drills." The Hoyt patent makes no pretense to being for anything *but* an *improvement*. And it says that it is for an improvement *in grain drills*, in one place—any kind of grain drills—and for an improvement in grain drills commonly known as *shoe* grain drills in another place—any kind of "shoe" drills. Now the drills that Hoyt says his invention is an improvement in are any kind of grain drills, or, at least, any kind of *shoe* grain drills, whether they used weights, as in the old Dowagiac drills, or rod springs of various kinds, as in the Brennan, Taylor & Lyman 1877 patent, the Williams 1880 patent, the Santrock 1880 patent, or others, in evidence, or coiled springs, as in the Patton 1868 patent, the Elam & Boggs 1882 patent, or others in evidence.

If the above is true, and it seems too plain for question, then counsel has no warrant for contending that the Hoyt drill "was not an improvement on a *coiled* spring drill." It was just as much an improvement on a *coiled* spring shoe drill as on any other kind of a shoe drill. No kind of *shoe* drill is *ex*cluded. Hoyt improved, or started out to improve, grain drills *of the shoe type* whether they had anything to press the shoes into the ground or not—weights, coil springs, rod springs, no springs. To single out any kind of shoe drills—coiled spring drills—and say that Hoyt did not improve that *kind*, did not mean to include *that* kind, did not refer to *that* kind, in his statement as to what his invention was an improvement on, is contrary to the language of the patent itself, which simply says that it is for improvements "in grain drills" known as "shoe drills" without other limitation, distinction or explanation.

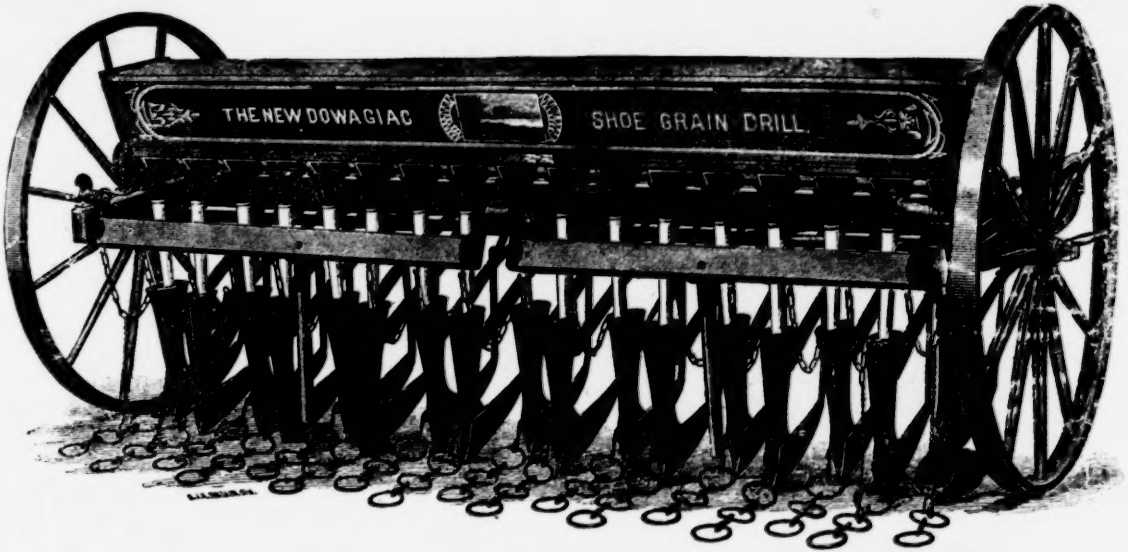
Instead of dividing all patents into patents for *original* machines and patents for *improvements*, as done above, the courts have frequently adopted another set of words expressive of the same thing. They divide patents into "pioneer" patents and "improvement" patents. All patents are either "pioneer" patents or they are "improvement" patents; they are one or the other. Now which kind is the Hoyt patent? The courts sustaining it have assigned it to the class of *improvement* patents, and have described the Hoyt inventions as *improvements* only. Judges Taft, Lurton and Day, 101 Fed. Rep., page 719, say, "the patent to Hoyt was for *improvements* in that class of grain drills generally known as shoe drill," and on page 721 they say that "Hoyt was not a *pioneer.*" Judges Sanborn, Thayer and Carland, 118 Fed. Rep., page 136, speaking of the Hoyt patent, say that "the patent in suit is for an *improvement* in grain drills," and on page 141 they say that Hoyt "was not a *pioneer,*" and on page 142 Judge Thayer, in his individual

opinion, says that "Hoyt's patent, *confessedly*, does not cover a *pioneer* invention." Judges Lurton, Severens and Richards, 127 Fed. Rep., page 143, describe the Hoyt patent for "*improvements* in grain drills," and on page 145, after stating the two principal objects of the invention, say, "there were in use devices for both these purposes"—the purposes of the patent, but not so good—thus finding that the Hoyt patent was not a pioneer patent, but an *improvement* patent only.

Counsel tries to avoid the effect of the fact that the Hoyt invention is an *improvement* on existing grain drills, notwithstanding the patent itself *says* that it is and the courts have held that it is, and insists that substantially every part of the drill is embraced in the patented combination, and the court in the Brennan case appears to adopt this contention. In a word, counsel and court are apparently influenced by the *form* or wording of the claim as a combination claim and disregard the facts as established by the *state of the art* as it existed at the date of the Hoyt invention. When Hoyt entered the field *thousands* of shoe grain drills were in use. The complainant *itself* was selling hundreds, and had been for a number of years. All these drills were practical, useful, successful agricultural implements—useful in their day and generation. The frame, the seed box, the force feed, the feed regulator, the feed indicator, the shoes, the means for pressing the shoes into the ground, the means for raising them from the ground for transportation, the size, shape and hang of the shoes, the means for attaching them to the frame and dragging them forward, the tongue, wheels, clutches, levers, conduits—all the parts, elements, devices and *fundamentals* of shoe grain drills were in use in concrete structures when Hoyt climbed the fence and entered the field of grain drill construction. Indeed, the complainant itself was, and for many years had been, manu-

facturing and selling a shoe drill like that represented in its 1888 catalogue, of which we here reproduce a cut. The evidence shows that many hundreds of these drills were sold. They were a good drill and did good work. Hoyt thought, however, that he could take out one of the parts of the drills as they were generally made and put in a better one—the pressure device for the shoes; and so he took off the weights, or the coil, or bar springs, of the existing shoe drills and in their place substituted his long springs as described in his patent. This was his action in legal contemplation whether he actually went through the physical performance or not. He then claimed this rod spring pressure device in combination with the frame and some of the other parts of the drill as he found it, and his counsel now claims the *whole* structure because, as he says, substantially every part was embraced in his patented combination, just as if he had invented the whole instead of having *appropriated* the sum of the work of fifty years of invention in the grain drill art!

As a matter of fact, the *form* of the claim is immaterial. A court of equity looks through form to substance. Robinson on Patents, Section 516, says that "No particular form of words is required for the statement of the claim," and in Section 526 he says that "any form of words may be employed in a claim for a combination, provided it actually describes the real invention." The usual way of claiming an improvement is to claim it in combination with the parts of a machine with which it is incorporated, but this does not change the *fact,* nor make the patentee the inventor of the *existing* machine. If a man improve a pocket knife by adding a file blade, as somebody some time did, a claim for "the combination of a handle, a cutting blade and a file blade," does not enlarge his rights or change his position as an improver. He is still an improver and must be treated as one, the same as if he had claimed "in a knife, a file blade."



17 SHOES, FOR THREE HORSES.

Complainant's Dowagiac 1888 Shoe Drills which, among others, Hoyt improved by adding his spring pressure device.

And if the *form* of a claim be immaterial, so an argument based on such form must be unsound and inconsequential. The fact that Hoyt has chosen to frame his claim in the form of a *combination* claim in no way changes his position in the *art* and in no way should exempt him from the application of the doctrine of apportionment.

Fourth Reason Why the Decision in the Sixth Circuit Was Erroneous.

In addition to the error of law into which the court has fallen in the Brennan case, it is also in error as to matter of fact when it says that some of the Hoyt claims, "the first for instance, include the several elements which go to make up the seeding part of a drill, in combination." This is a mistake. Neither of the claims of the Hoyt patent enumerates or calls for the necessary elements and parts that are *required* to make up a *complete* or *operative* drill. If we were to attempt to build a drill containing only the parts or elements mentioned in the first, second and third claims of the Hoyt patent involved in this accounting, several of the necessary and essential features and combinations contained in the Dowagiac drill and defendants' drills, *and without which they could not be operative or sold*, would be found to be lacking. We would have no "seed box and force feed for the grain from the feed box" specified by Mr. Bond as the second essential and indispensable feature to a practical and salable up-to-date grain drill, to the essentiality of which Mr. Fowle of the Dowagiac Company assented. We would have no "seed box and *adjustable* force feed for the grain from the seed box for regulating the amount of grain discharged by the feed" specified by Mr. Bond as the third necessary and essential feature or combination in a practical and salable grain drill, to the essentiality of which Mr. Fowle assented. We would have no

"accurate gauging of the cups and wheels for the feed and an *indicator* for enabling the operator to readily and quickly change the amount of seed or grain discharged by each cup and feed wheel," to quote the formulation in which Mr. Bond defined the fourth necessary element or feature in a practical, modern grain drill, to the essentiality of which Mr. Fowle assented.

But, without following the exact order of Mr. Bond's formulations, there is no mention made in the claims of the Hoyt patent under consideration of the "connection between the seed box and the furrow openers" to prevent the seed from being blown away or prevented from being deposited in the furrow. There would be a shoe, because that is mentioned in the claims, but it is not required by the claims to have "a sharp cutting bottom edge and V-shaped exterior sides with the apex of the V at the bottom" necessary to make a practical and efficient shoe drill. We would have no "coverer following the heel end of the runner for closing the furrow over the deposited or dropped grain or seed" which is essential not only to the operativeness but to the salability of a modern grain drill. We would not have "a plurality of runners," nor "a lift common to all the runners for raising and holding all of the runners clear of the ground," nor "a continuous flexible or telescopic connection between the seed box and the boot," not to mention many other things entering into the construction of practical, successful modern grain drills, as defined by Mr. Bond and as assented to by Mr. Fowle and Mr. Swayne.

We say that a drill built with all the parts specified in the three claims of the Hoyt patent under consideration, but without being supplemented and made effective and operative by the addition of others not mentioned—other features, arrangements, devices and combinations specified by Mr. Bond

and admitted by Mr. Swayne and Mr. Fowle as inherently or commercially necessary and essential—would not be an operative, practical or salable grain drill, and we take it that this statement will not be questioned.

In fact the Hoyt patent recognizes that the combinations called for in the first, second and third claims are lacking in essential features, and so, in the additional three claims of the patent, calls for *additional* features not mentioned or contained in the first three claims under consideration in this case. For instance, the fourth claim calls for the additional feature of a covering device or means as "A wheel traveling in the path of the shoe," not called for in the first three claims. And in the fifth claim still additional means as "A wheel traveling in the rear of the shoe, said wheel having a spring pressure connection with the spring metal rods leading from the draft rods," not called for in the first three claims. And the sixth claim calls for still additional means and devices. Covering means of some kind are enumerated by Mr. Bond as a part of the combination specified in his twelfth formulation of necessary and essential features and combinations. Mr. Swayne, complainant's general agent for the Northwest, in answering cross-question 25, on page 155, admits that it is essential in the construction of practical and successful shoe drills that there shall be "means for closing or filling the furrows made by the shoe or runner." Furthermore and finally the specification of the Hoyt patent simply purports to be for "improvements *in* grain drills" and nowhere claims to be anything more—much less to be for the entire drill.

It is plain, in view of the foregoing, that the court was in error in the Brennan case in considering the Hoyt claims as calling for and as inclusive of an *entire* grain drill instead of merely for some *parts* to be used *in* a grain drill, parts use-

less and inoperative by themselves and of no practical utility until incorporated with the essential, indispensable, *master* inventions of a dozen prior inventors.

Reasons Why Apportionment in This Case Should Be Required.

At this point we consider it opportune to take up and consider the finding of the Master and the Circuit Court and the Circuit Court of Appeals in reference to the matters under consideration touching not only the propriety but also the *necessity* of applying the doctrine of apportionment to the facts of this case.

The Master, in his report, beginning at page 15 of the Record, says:

> "I have quoted from the decisions in the various cases in which this patent has been before the courts, to determine, if possible, what view they had taken of it; but of course in that connection it should be remembered that the questions for determination before those courts were not the same which confront the Master here. There the questions were, first, was the Hoyt patent valid? Second, had it been infringed by the defendants? Here the question is as to the scope of the patent, and whether the invention imparted to the infringing machine its entire value as a marketable article.
>
> "It is claimed by complainant's counsel that
>
> "'Neither this claim 1, or any other claims in question are for a spring merely; they are all combination claims reaching out and taking in substantially all the parts of a grain drill, and specify their arrangement for co-action to produce a particular result, and it is conceived that each and every one of these elements of the claim is essential. . . .
>
> "'So that it must be clear to the Masters that they are dealing here, not with a mere spring and attachment for a grain drill, but they are dealing with essentially a combination which takes in all the material

parts of the grain drill—certainly all the parts necessary for the successful operation of the grain drill in the northwest.'

"On the other hand the defendants claim that the Hoyt invention can not be held to cover the complete grain drill, but that it was for improvements in grain drills. As is said in the defendants' brief, page 3,

" 'The patent does not claim that Mr. Hoyt invented an entirely new shoe grain drill, a complete article, distinct and different in all its parts from the shoe grain drills that were in use. Mr. Hoyt simply, at the most, and in the most liberal view that has been taken of his patents by the court, invented a new and useful improved *spring pressure* device to be used *in* and as a *part of* the established shoe grain drills. Mr. Hoyt's patent is not for a shoe grain drill *per se*, but for *improvements* upon and relating to such grain drill.'

"The patentee says that his invention consisted 'in a certain construction and arrangement of parts,' and he says that the object of this construction and arrangement of parts is 'to provide independent spring pressure for each of the shoes and covering wheels of the drill,' . . . 'and to provide means whereby said shoes and covering wheels may be raised from the ground when the implement is not in use,' etc.

"It is what is called a 'combination patent,' the elements entering into its construction being all old, but arranged in a new combination.

"It is true that the claims recite the wheels, the frame, the hopper, the shoe, and the draft-rods with pivotal connection with the frame, and of course the spring pressure device would be useless without those parts, but it seems to me it can hardly be seriously claimed that because an inventor recites in his claims every part of the machine upon which his improvement is used, that thereby his patent can be broadly construed as practically covering the whole machine. It seems to me we can not construe this patent any broader than the inventor has stated its object, and that we must construe it as merely consisting of an improved method of imparting spring pressure to the shoes and covering wheels of the old and well known shoe grain drill, and

an improved method of raising the covering wheels and shoes of the drill when not in use. A valuable improvement and device, it is true, but very far, it seems to me, from a 'complete combination in itself differing from every other shoe drill,' or that 'Thus combined and arranged, they made a new thing, like a new chemical compound.'

"An examination of the testimony of the experts called by both parties in these cases will reveal the fact that practically all of it relates to the spring pressure device. And there is every reason why it should, for the spring pressure device of the Hoyt patent is the very life of this litigation. Eliminate that device and there is nothing left of the law suit. But the shoe grain drill would still remain, substantially perfect in all its parts, except as to the combination of the rod spring pressure device disclosed in the patent in suit. True it might not be as efficient in certain soils and under certain conditions without as it would be with the Hoyt invention, but it would still be a shoe grain drill, and usable and salable, to a certain extent, at least. It could not be said to be absolutely worthless and unsalable, as Mr. Fowle, the manager of the complainant, himself shows (page 112, complainant's testimony in rebuttal on accounting)."

In the Circuit Court Judge Amidon, in overruling the complainant's exceptions to the Masters' reports, in a very lucid opinion, beginning on page 89 of the Record, said:

"These suits in their previous stages have established the validity of the complainant's patent, and have established that the defendants have infringed that patent. The causes were referred to Masters for an ascertainment of the extent of the complainant's damages by reason of such infringement.

"The rule in a patent cause is not different from what it is in any other cause in this particular, that the burden of proving the extent of his damages is upon the plaintiff. He comes forward with the charge not only that the patent has been infringed, but that he has been damaged, and it is incumbent upon him to prove the character and the extent of the damage in order to justify the court in entering a judgment in his favor.

"In the presentation of his cause before the Masters the complainant sought to recover both the profits which he claims the defendants secured by reason of their unlawful sale of his invention, and also the damage which he claims that he suffered by reason of such sales.

"In order to pass upon the question of damages in these cases, it is of the first importance that the court ascertain the extent of the complainant's invention. Not the extent of his manufacture, but the extent of his invention. The wrong that has been done him is a violation of the patent securing to him the invention.

"Now in his claims and specification he sets forth his invention in this language:

"'This invention relates to new and useful improvements in grain drills commonly known as "shoe drills"; and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

"'The object of the invention is to provide an independent spring pressure for each of the shoes and covering wheel of the drill, whereby the work of the drills is rendered efficient in uneven ground, and to provide means whereby said shoes and covering wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another.'

"The essential feature, therefore, of his invention, is not a press drill, but it is this spring pressure device for pressing the shoes into the ground. This is his invention, and it is the invasion of that that constitutes the defendants' wrongdoing.

"The complainant having made that invention and secured a patent for it, proceeded to manufacture the entire structure in which it is embodied, making a grain drill consisting of tongue, frame, seed-box and wheels and all the other elements of a large and complicated machine. His profits accrued from the manufacture of that machine and its sale, not from the manufacture and sale of his invention.

"The defendants, in their infringement of the patent, sold structures that consisted of entire grain drills. Their profits were derived from the entire structure,

and not from the subordinate improvement of the complainant's invention. And now the complainant comes forward and says, 'It cost you to manufacture this grain drill, the entire structure, $20.00, and you sold it at $40,'—I am not attempting to give the exact figures, but only something by way of illustration,—'therefore, there was a profit upon each grain drill that you sold embodying my invention of $20.00; therefore, I am entitled to recover of you for every grain drill that you sold the sum of $20.00.' That is not only unreasonable when brought to the standard of common sense, but it is in violation of the well established principles of law. Where an invention consists simply in an improvement of an established structure or machine, and there is an infringement of the patent, the patentee, when he seeks to recover damages, is bound to apportion the profits according to the extent of his improvement when estimated in the light of the entire structure. He is bound to bring forth evidence himself upon that subject that will make plain, reasonably plain, the extent of his damages by reason of the infringement of his patent. The complainant here has not attempted to do that. There is nothing in the record from which any finding could be made. On the contrary, the complainant says, 'My invention is the combination invention, and I have specified in my claims all the elements of a grain drill, and therefore my structure is an entirety, and whoever sells a structure embodying my invention is accountable to me for the entire structure which he sells.' I think the complainant has proceeded upon an unjustifiable ground. . . .

"Considerable has been said in the argument to the effect that these defendants are 'wanton' infringers of the complainant's patent. I do not think the evidence justifies any such finding. The fact that these defendants saw fit to contest the suit for infringement, acting upon the belief that their structure in fact did not infringe, does not make them out wanton and willful infringers of the complainant's rights. The cases in which that term has been most frequently applied are those in which a party having a license for the sale of a patented article, has proceeded to sell the patented article after the cancellation of his license. Some such situation as that.

"We all know that whether a given structure is an infringement of a patent is a matter depending upon many nice considerations of fact, and many difficult questions of law, and that they are matters as to which laymen and lawyers and even courts entertain divergent opinions. In some features of the great body of litigation that has grown up on this patent for the Dowagiac drill, it has appeared that some considerable divergency of judicial opinion has arisen as to what constituted an infringement of the patent. Now, it would be a serious and unjustifiable charge to say that every defendant who saw fit to litigate his rights in court under such circumstances was a wanton and willful infringer of the complainant's invention.

"In the case before Judge Clark it seems that the evidence there was such as to lead him to believe that the defendants in that particular case were guilty of wanton and willful infringement. The evidence in that case is not before me, but sufficient excerpts from it have been presented here to show that the conduct of the defendants in that litigation was wholly different from the conduct of the defendants here. There the defendants were guilty of evasion and misrepresentation, setting up from time to time wholly different and inconsistent theories, and saying that statements which they had produced as to their business were given under a misapprehension at one time, and starting in upon an entirely different basis at another time, and of course a defendant who acts in that way does give a just ground for the inference that his conduct is wilfully wrong.

"Here, the defendants have come forward with perfect frankness, have given a full and complete disclosure, and have met every requirement of open, frank and honest dealing that the litigation could require of it.

"A presumption exists that the findings and decision of a Master in such cases as these is correct. The burden is upon the party excepting to point out and satisfy the court that the Masters have erred. I have not been satisfied by the arguments presented to me that the Masters were guilty of any error in either of these cases. I have examined with considerable care Mr. Hitchcock's very full and complete review, both of the facts and of the law in this case, and have been greatly aided by the same. I believe he has presented

the case fairly and justly, and that his conclusions are amply supported by the facts and the law."

The Circuit Court of Appeals in affirming Judge Amidon's decision confirming the Masters' report, beginning on page 1386 of the Record, said:

"The only question is whether the proof warranted a finding for substantial damages. The invention was for an improvement in grain drills of a well known pre-existing type, the 'shoe drill.' Its objects, as stated in the specification of the patent, was 'to provide an independent spring-pressure for each of the shoes and covering-wheels of the drill, whereby the work of the drill is rendered efficient in uneven ground, and to provide means whereby said shoes and covering-wheels may be raised from the ground when the implement is not in use or when transporting it from one field to another."

"The patent assumes the existence of practically all the elements of well known grain drills then in existence except the means for exerting an effective pressure upon the shoes in order to elevate or depress them as occasion required. The claims provide for a certain spring metal pressure rod to accomplish this purpose. The interposition of this rod, in combination with old elements constituted the invention of the patent. The principle and scope of the invention have been the subject of considerable judicial inquiry and the results may be briefly stated: In *McSherry Mfg. Co.* v. *Dowagiac Mfg. Co.*, 101 Fed. 716, 721, it was said: 'Grain drills were old. Shoes and press-wheels are elements found in other structures.' . . . 'That Hoyt's drill is a marked improvement over older structures is most clear.' . . . 'Hoyt was not a pioneer. But this invention is clearly a meritorious one.' . . .

"In *Dowagiac Mfg. Co.* v. *Minnesota Moline Plow Co.*, 55 C. C. A. 86, 118 Fed. 136, 139, this court had the Hoyt patent under consideration and said of it: 'The function of the device in the Hoyt patent was to control the depth of the cut of the shoe by a regular pressure easily exerted by means of a lever, and by the same means to regulate the shoe in uneven ground, and to raise the shoe from the ground when not in use. The

principle of the combination was old. The result attained old.' . . . 'Hoyt, it is true, was not a pioneer.' It was there said by Judge Thayer, in a dissenting opinion not differing in this respect from the majority, as follows: 'Hoyt's patent, confessedly, does not cover a pioneer invention, but merely a new combination of old elements to accomplish a result which had previously been accomplished.' . . . 'When the Hoyt patent was issued, what are termed "shoe drills" were in common use, and various means had been employed by the manufacturers of such drills for applying pressure to the shoes, and for elevating them when the operator desired to do so.' See also *Dowagiac Mfg. Co.* v. *Fowler*, 58 C. C. A. 643, 121 Fed. 988.

"In *Dowagiac Mfg. Co.* v. *Brennan & Co.*, 62 C. C. A. 257, 127 Fed. 143, 145, the Circuit Court of Appeals for the Sixth Circuit, in considering this patent, said: 'The objects which the inventor had in view were twofold, first, to provide means for depressing the shoes of the drill to meet the requirements of its movements when in operation upon differing and uneven surfaces, and, second, to provide means for lifting the shoe and its attachments off the ground while the drill is being moved from place to place. There were in use devices for both these purposes, but they lacked the desired simplicity, convenience and ease of management.' . . . 'Some, perhaps all, of these advantages had, in a way, been supplied by the former art; but they had not, so far as we can see, been so completely gathered together or attained in so simple and useful a way.'

"In view of these decisions it is unnecessary to enter upon any independent discussion of the scope of the patent. While its claims call for all the elements of a then well known grain drill, namely: transporting wheels, frame, hopper, shoe, draft-rods, clamping-plates, etc., the spring metal pressure rod used in combination with those elements, constitutes the pith of the invention. It rests in the improvement of a specific part of a well known structure.

"Its character and scope have been thus briefly adverted to because they are important in determining the true measure of recovery for its infringement. The general rule in patent cases like all others is that a complainant is entitled to recover damages for the loss he has sustained by reason of the wrongful acts of the

infringer and the burden is on him to show how much it is. This was laid down by Mr. Justice Field, speaking for the Supreme Court, in the case of *Garretson* v. *Clark*, 111 U. S. 120. He said: 'When a patent is for an improvement, and not for an entirely new machine or contrivance, the patentee must show in what particulars his improvement has added to the usefulness of the machine or contrivance. He must separate its results distinctly from those of the other parts, so that the benefits derived from it may be distinctly seen and appreciated.' And quoting from Mr. Justice Blatchford, who was the trial judge in the case, he added: 'The patentee must in every case give evidence tending to separate or apportion the defendant's profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative.'

"Authorities to the foregoing general effect are numerous and their citation would be useless.

"Complainant offered proof tending to show the profits made by defendants in sales of the entire structure without making any apportionment of them to the patented feature, as distinguished from the balance of the drill. It claimed the doctrine of apportionment to have no application; first, because although the patent contains but one novel element, the combination of that element with the others constitutes an appropriation of all of them in combination. In other words, the contention is, that because the Hoyt patent is a combination patent in which one novel feature is combined with several not novel, each and all of the elements, associated in that combination, are, for the purposes of an accounting, to be considered as appropriated by the patentee and if there is an infringement over the novel feature all the profits made by the infringer upon the whole combined structure are recoverable and that proof of those made by reason of the novel feature alone is unnecessary. Reliance for this contention is placed upon the cases of *McSherry Mfg. Co.* v. *Dowagiac Mfg. Co.*, 89 C. C. A. 26, 160 Fed. 948, and *Brennan & Co.* v. *Dowagiac Mfg. Co.*, 89 C. C. A. 392, 162 Fed. 472.

"Without now analyzing these cases, it serves our present purpose to say that if they support the contention of the complainant they seem out of harmony

with the doctrine of the Supreme Court and our court as disclosed in many cases and particularly the following: *Garretson* v. *Clark* (*supra*); *Tilghman* v. *Proctor*, 125 U. S. 136; *McCreary* v. *Pennsylvania Canal Co.*, 141 U. S. 459; *Crosby Valve Co.* v. *Supply Valve Co.*, 141 U. S. 441, 453; *Sessions* v. *Romadka*, 145 U. S. 29; *Keystone Mfg. Co.* v. *Adams*, 151 U. S. 139, 147; *Westinghouse Elec. & Mfg. Co.* v. *Wagner Elec. & Mfg. Co.*, .. C. C. A. .., 173 Fed. 361.

"These cases have recently been considered by us in an opinion written by Van Devanter, Circuit Judge, in the case of *Brown* v. *Lanyon Zinc Co.*, .. C. C. A. .., 179 Fed. 309, where a conclusion was reached adverse to complainant's present contention.

"These authorities make it clear, we think, that an apportionment of profits between the patented and unpatented parts of the drill was indispensably necessary. The invention did not inhere in the entire machine as an entity, but was only an improvement in a single element of an otherwise well known device.

"It is next contended that the entire value of the machine as a marketable article was properly and legally attributable to the particular patented feature, that it was derived from the Hoyt invention exclusively and, therefore, within the rule laid down in the cases already cited and *Westinghouse* v. *New York Air Brake Co.*, 72 C. C. A. 51, 140 Fed. 545, it was entitled to recover all the profits which the defendant made by the sale of the grain drills embodying the novel feature.

"This depends upon the facts of the case, and they upon the evidence of the witnesses. The master who took the evidence heard the witnesses, observed their demeanor and formed his conclusion as a result of all those considerations which appropriately affect the mind of a trier of facts. His conclusion was reviewed on exceptions by the learned trial judge. Both of them found against the contention. There being no obvious error of law or serious mistake of fact, their findings will be accepted as true. *Moline Plow Co.* v. *Carson*, 18 C. C. A. 606, 72 Fed. 387; *Brown* v. *Lanyon Zinc Co.* (*supra*). In this case not only is their conclusion presumptively correct, but a careful examination of the proof convinces us that it is actually so.

"Complainant next argues that its grain drill was so peculiarly adapted for use in what was known as the

> Northwest Territory that it had superseded all other grain drills in that Territory and could and would have been supplied with reasonable promptness by the complainant if the defendants had not entered the field, and for that reason, within the rule laid down in *Manufacturing Co.* v. *Cowing,* 105 U. S. 253, it was entitled to recover as damages all it would have made by selling its machine to all the persons who purchased from the defendants in that Territory. This contention also depended upon the proof. The master and the court below found against complainant on it and there is not only ample evidence to support their finding, but, in our opinion, gathered from a careful review of the proof, they could not well have found otherwise."

In view of the fact that the courts from the beginning have applied the doctrine of apportionment to *combination* claims including the entire machine, as well as to other kinds of claims; in view of the fact that, if combination claims are to be exempt from the doctrine of apportionment, all that an inventor of some small addition to a valuable existing machine needs to do, in order to entitle himself to the profits on the manufacture and sale of the entire machine, is to claim his improvement in *combination* with the other parts of the machine; in view of the fact that the claims of the Hoyt patent, no matter how worded, are simply for *improvements* on grain drills, and not for the drills as a newly invented machine then first given to the world; in view of the fact that the combinations described in the Hoyt claims fall short of constituting a complete drill or an operative structure of any kind; and in view of the fact that the mere *form* of the claim—a non-essential thing, something that may be varied, something that the patentee selects and wills—cannot change the settled rules of law or the actualities of the case, we submit that the court was in error in the Brennan case in holding that the doctrine of apportionment did not apply, because the claims happened to be cast in the form of combination

claims, and we insist that such doctrine is just as applicable to combination claims as to others—that it is applicable to this case.

Complainant Has Not Shown Any Net Profits From Sale of Drills.

Aside from the failure of the complainant to first make the comparison and then the apportionment required, it has also failed to show the *net* profits made by the defendant, if any, in the sale of the infringing shoe drills although every facility and opportunity for doing so was afforded by the defendant.

At the request of the complainant the defendant furnished an itemized "statement showing shoe drills purchased from the McSherry Mfg. Co., Middletown, Ohio, and sold by the Minnesota Moline Plow Co. with purchase and selling prices of same." This statement was preceded or introduced by a notice that "no deductions have been made for store rent, salaries of officers and employees, freight on machines, expenses and salaries of traveling salesmen, patented and unpatented improvements and inventions contained in the McSherry drills in addition to the Hoyt patented invention, interest on the money invested in the business, nor other items of expense required in carrying on the business of selling drills." The complainant was thus notified in express terms that the statement only showed the gross expenditure and the gross receipts on account of the shoe drill business, and not the *net* profits, if any, of the business.

Thereupon the complainant had an expert accountant, Hart, visit Minneapolis and examine the defendant's books (Rec. 132). He says he checked over the statement furnished by the defendant with the books and found that the defendants had charged themselves with 9 drills too many. He says on

page 138: "On putting the results together, I find nine drills in addition which should be credited to the company." He says this grew out of the return of certain drills that the defendants had not so noted in their statement. In answering X-Q. 25 he says that he understands the words "purchase price" and "selling price" in the defendant's statement "are intended to show the gross purchase price at which the Minnesota Moline Plow Co. got their drills and the gross selling price at which they subsequently sold them." Thus the witness fully understood that the statement did not show nor purport to show the *net* profits, if any, realized by the defendants.

It is, of course, needless to quote from the many cases which hold that in ascertaining the savings or profits that a defendant is chargeable with he is entitled to deductions on account of many items—office rent, clerical hire, officers' salaries, insurance on stock, interest on investment, travelling salesmen, commissions, discounts, bad debts, taxes, etc. In fact the profits are to be ascertained the same as a man ascertains whether he has made anything at the end of a business venture.

The complainant made no effort to ascertain any of these items and to find out just what it cost the defendants to market their drills. It had every opportunity to ascertain the facts. It called and examined Barber (Rec. 139), who was manager of the defendant company during part of the infringing period, and cross-examined Martin (Rec. 590), who was manager of the defendant's business at Minneapolis. It also had its expert accountant Hart (Rec. 133) examine the books of the company, and was given every opportunity and facility for ascertaining the facts. Furthermore, at the conclusion of the examination of Martin (Rec. 616) we asked complainant's counsel if he had "any reason to be dissatisfied

with the facilities that had been afforded him for examining their books, files, letters, etc., as, if so, we desired now to give him such other and additional opportunity as he may want," and complainant's counsel replied that "he considered that every courtesy had been extended to the complainant that might be asked in this behalf."

Yet with all these opportunities the complainant made no effort to show what it had cost the defendants *to sell its drills*, and thus the *net* profits, if any, they had made in the purchase and sale of infringing drills. The burden was on it and the opportunity afforded.

In what way did the complainant attempt to show that the defendants made *net* profits in their purchase and sale of drills and the *amount* of the same. The complainant claims that the defendant's profits can be figured out by means of the stipulation appearing on pages 173 and 174, and then taking into consideration the cost and the selling price of the Dowagiac drills reported by the defendant, the Minnesota Moline Plow Manufacturing Company as corrected by Mr. Hart, and the figures given thereon.

The method pursued by the complainant in figuring the defendant's alleged profits is wholly inadmissible and insufficient. It is contrary to the decisions. It is conjectural and unreliable. There is no certainty or substantial certainty in the results arrived at. We will examine it in detail.

The defendants reported the McSherry drills bought and sold by them and the *purchase* price and the *selling* price. The expert Hart made some corrections in the report as we have already seen—among other things reduced the report of drills sold by nine. Between the defendant's report and Hart's corrections we have presumably the correct amount

paid for the drills and *received* from their sale. The difference would represent the *gross* excess of the one over the other. But the law awards only the *net* profits after deducting many items of credit—rent of office and warehouses, officers' salaries, clerical hire, interest on the investment, depreciation, freight on drills, travelling salesmen's salaries and expenses selling drills, commissions on sale of drills, discounts for cash on sale of drills, bad debts, etc. *Seymour* v. *McCormick*, 16 How., 487; *Rubber Company* v. *Goodyear*, 9 Wall., 802; *Manufacturing Company* v. *Cowing*, 105 U. S., 257; *Wilbur* v. *Beecher*, Fish. Pat. Rep., 414; *Steam Stone Cutter Co.* v. *Windsor Manufacturing Co.*, 4 Banning & A., 448; *Calkins* v. *Bertrand*, 8 Fed., 757; *National Folding Box & Paper Co.* v. *Dayton*, 95 Fed., 992.

Instead of ascertaining and deducting the defendants' expenses involved in selling the drills, included in the various items enumerated above, the complainant simply ascertained the "proportions of total *expenses* to total *sales*" of the defendant's *entire* business, and applied this to the *special* part of the defendant's business represented in their buying and selling drills. After ascertaining the proportion of the total expenses to the total sales of all the implements dealt in by the defendants—their entire business—for the several years of the infringement the complainant asked the defendant to stipulate the proportions and we did so. (Rec. 173-4.) The stipulation recites that—

> "The total sales by the Minnesota Moline Plow Company of all kinds of implements and machinery including shoe drills as well as every thing else, and the total expenses of making such sales, and the percentage of expenses to sales, as shown by the books of the Minnesota Moline Plow Company for the years ending June 30, 1896, 1897, 1898, 1899, 1900 and 1901, have been as follows:"

The stipulation then proceeds to give the total *sales* of the defendant's *entire* business, the total *expenses* in making such sales, and the pecentage of the one to the other, during the years of the infringement. With this information and no other, as a basis, the complainant claims to figure out the defendant's *net* profits. Counsel says that this can be done by means of the stipulation fixing the percentage of total expenses to total sales and then taking into consideration the cost and selling price of the defendant's drills. We say that it cannot be done for the reason that where a defendant is conducting a large business *in all sorts* of machinery and farm implements, as the defendants were doing, the percentage between the *total* sales of everything and the *total* expenses of everything cannot show the expense of selling any *one particular* line of goods and has never been so accepted. A moment's reflection will suggest that while the sale of *one* line of goods might require but little expense, the sale of *another* line, owing to competition by strong rivals, distance of shipment to place of sale, and other causes, might cost so much as to entirely eat up the profits. The average percentage between total sales and total expenses might be 10 per cent. but some lines of goods might cost practically *nothing* to sell and others 20, 50 or a 100 per cent. or even *minus* a profit be sold at a loss. Manifestly the net profits on the latter lines could not be arrived at by applying the *average* percentage. The only applicability of the percentage of total expenses to total sales is to ascertain the proportion of those *general* expenses of administration, etc., that should be deducted, *after* ascertaining and deducting the various *special* expenses particularly attributable to the goods included in the accounting. This is as far as the percentage matter can be used.

In *Hitchcock* v. *Tremaine,* 5 Fish., 311, Judge Woodruff, in 1872, discussing this exact condition of things said:

> "I think the estimate of the gains and profits which the Master has reported to have accrued to the defendants from the infringement of the patent of the complainants, is erroneous and unjust to the defendants. The complainants have seen fit to proceed against the defendants for the recovery of gains and profits, treating them as trustees in that behalf; and the recovery is to be for what the defendants have realized after deducting their expenses in dealing in the infringing article. The defendants are dealers in musical instruments, including pianos, melodeons, and organs with and organs without the tremolo attachment, which has been decreed to be an infringement of the complainant's patent. See *Hitchcock* v. *Tremaine,* 8 Blatchf. C. C. 440; 4 Fisher, 508. The conduct of their business necessarily involves certain general expenses, which are as truly expenses of dealing in one class of goods as of dealing in another class. Such expenses as general clerk hire, rent of store, salary of bookkeeper, if any, and the like, concern the entire business; and, in any estimate of gains and profits, are properly apportionable to the several kinds of business done, or kinds of goods sold, when the profits of either are to be separately stated. For example: to ascertain how much profit is gained by dealing in pianos, let it be assumed that, of the aggregate sales in the business, one-half in amount are sales of pianos. Besides such *special expenses as are peculiar* to the receipt, transportation, and other peculiar service, if any, which pertains exclusively to the dealing in pianos, the general expenses are to be taken into view, one-half of which belong to the sales of pianos, as truly as the other half pertains to the sale of the other goods. This would be quite obvious if a dealer in goods of several kinds were liable to account to some other persons respectively for the gains and profits which he had made by his dealing in each kind of goods. The gross proceeds of sales of each kind being ascertained, and a deduction from each being made, *of such special or peculiar expenses* as, in a *pro forma* account, *would be chargeable to each,* there would remain, for allotment to each account, its proportionate share of the general expenses incurred for the benefit of all, that

is, for the maintenance and conduct of the business; and this distribution should be in the proportion of the several amounts of sales of each."

In *National Folding Box & Paper Co.* v. *Dayton Paper Novelty Co.*, 95 Fed., 993, Judge Taft, in 1899, in considering the percentage of expenses to business transacted, said:

> "The remaining item is percentage of general expenses. The aggregate sales of defendant's entire business amounted to $444,128, and the aggregate sales of the infringing boxes amounted to $48,249.84. The ratio, therefore, of the total sales of infringing boxes to the total sales of the entire business is 10.86 per cent., and I shall assume that this proportion of the *general* expenses is to be credited to defendant in stating the account of profits on the infringing boxes."

In the above case Judge Taft deducted all the *special* expenses referable to the manufacture and sale of the infringing boxes, and *then* the proper proportion of the general expenses to find the *net* profits. He proceeded on the exact principle laid down by Judge Woodruff.

As already suggested, the defendants were dealing in many different kinds of implements and farm machinery, as recognized by the stipulation itself quoted above. As appears by the stipulation the total sales of "all kinds of implements and machinery" during the infringing period amounted to $2,563,924.41, while by footing up the selling price of the drills, we find that the total sales of all the drills, including those afterwards returned, amounted to only $145,264.79. This shows that the drill business was only a fraction over 5 per cent. of the business carried on by the defendants—less than 5 per cent. when the drills returned and the drills sold in Canada are deducted. And on this scant *twentieth* of their business the complainant seeks to establish the *net* profits by deducting a percentage between the total sales and the total

expenses! The defendants may have *lost* on *this* fraction of their business. Who can tell? The entire difference between the purchase price and the selling price of the drills may have been eaten up in the effort to sell them in view of the competition that the evidence shows existed. Who can tell? The complainant simply failed to show *what* it cost to market the infringing drills—the commissions, the freight, the discounts, the travelling men's salaries and expenses, the bad debts, the things *special* to the drill business—and asks the court to conjecture, assume, guess, that the cost was the same as in the case of plows, rakes, harrows, buggies, wagons, and other implements, dealt in by the defendants in which they had little competition, if any, so far as shown by the record. It is not enough. "Damages must be proved; they are not to be presumed." *Blake* v. *Roberts*, 94 U. S., 733. "The burden is upon the plaintiff, and, if he fails to give the necessary evidence, but resorts, instead, to inference and conjecture and speculation, he must fail for want of proof." *Dobson* v. *Hartford Carpet Co.*, 114 U. S., 444.

If the complainant had ascertained and deducted the *special* expenses pertaining to the sale of drills, it would then have been in position to take the ratio of the drill sales to the total sales and claim that a deduction of a corresponding proportion of the *general* expenses showed the *net* profits, as was done by Judge Woodruff and Judge Taft, but it did not ascertain, nor attempt to ascertain the *special* expenses involved in the *drill branch* of the business, nor show nor attempt to show that they *could not be* ascertained or were difficult to ascertain. It simply *assumed* and asked the court to *assume* that the expenses pertaining to *all* the lines of implements and machinery dealt in by the defendants were proportionately the same, although every opportunity was given to ascertain and establish the exact facts from the witnesses and the books.

We know of no case and no principle that sanctions the method of ascertaining the *net* profits made by a defendant by simply showing the *percentage* of expenses entailed in selling a dozen lines of goods, and then deducting such percentage from the difference between the cost price and the selling price of some *one* line. We submit that this court will not announce that complainants can show *net* profits in any such conjectural and unreliable way, and that, if the court will not announce such a principle, it will not accept nor apply it in this case.

In view of the failure of the complainant to furnish sufficient evidence of the *net* profits, if any, realized by the defendants in the sale of the infringing drills, or of sufficient data for their computation, we submit that, irrespective of other reasons, the finding of the Master and the decree of the court awarding nominal damages only, must be affirmed.

In addition to the objection to the method adopted by the complainant, as explained above, there is a special objection to the *amount* figured out by the complainant. No deduction has been made on account of the 261 drills sold in Canada. The statement furnished by the defendants showing the purchase price and the selling price of the drills complained of, as corrected by the complainant's expert, Hart, shows that 261 of the drills, after being purchased, were shipped to Canada and sold *there*, not in the United States. This matter is discussed later on in our brief. The statement shows that these 261 drills were bought for $12,608.30 and were sold for $15,160.99. Manifestly, the freight charges incurred in shipping these drills to Winnipeg, for example, was greater than on the plows and harrows and other lines of machinery sold in Minnesota and perhaps in Minneapolis itself. Yet the complainant applies the same dead level of percentage to all alike. Besides, we submit that, in any event, these drills sold

in Canada cannot form an element for consideration in computing profits, and that, aside from the objection already discussed, they should be eliminated.

But even if the above method were permissible as a way of showing profits made by the defendants from the sale of infringing machines, the *result* or amount of profits ascertained is not allowable to the complainant until there has been a *comparison* made with the machines most nearly approaching the patented machine or the defendants' machines that the defendants might have dealt in, as merchants buying and selling machines, namely, the Van Brunt and other kinds of *coil* spring pressure shoe drills, to see whether the profits arrived at, as above, were really *attributable to the fact* that the machines had the *Hoyt* rod spring pressure device on them instead of the Van Brunt and other kinds of non-infringing *coil* spring pressure device. And if, *after* such comparison had been made, it appeared that the defendants had made profits from the sale of *rod* spring pressure drills that they would not have made by the sale of *coil* spring pressure non-infringing drills, then it would have been necessary to make an *apportionment* between the profits due to the use of the Hoyt spring *pressure device* and the profits due to the use of the *other* essential and foundation combinations and inventions derived from the older art, as already explained, on which the Hoyt improvement had been engrafted or superposed. So that merely showing, as the complainant is attempting to do, that the defendants have made so much profits, without subjecting such profits to the purging and purifying test provided by the doctrines of the *comparison* of profits and the *apportionment* of profits to eliminate everything that does not belong to the complainant, is inadequate and insufficient to establish a right to them in the complainant. It is, at most, merely showing *gross* profits on the machines and stopping there, when the evidence had established

that there were other kinds of machines on the market that the defendants, as merchants, might have dealt in, that were not infringements of the Hoyt patent, and that the lawful manufacturers were making by the thousands and selling "freely throughout the Northwest without let or hindrance to whoever wanted to buy and had the price," and when the evidence had further established that the patented machines and the defendants' machines were *composite* machines containing a dozen or more foundation inventions that the public possessed before Hoyt entered the field of invention. By what rule, in this state of the proofs, is the complainant entitled to the *gross* profits? We know of none. Certainly not the exception to the general rule laid down in *Garretson* v. *Clark* to the effect that where the *improvement alone* induces the sale of the machine, it entitles the owner of the patent to *all the profits* resulting from the sale, because the proofs in this case establish no such condition of things.

The complainant has certainly not brought itself within the rule laid down in the recent decision of this court in *Westinghouse Electric Co.* v. *Wagner Electric Co.*, 225 U. S., 406, which applied to patent cases the equitable doctrine that has long obtained in the case of the wrongful confusion of goods. But in that case this court was careful to lay down the requirement that before the rule applicable to the wrongful confusion of goods could be invoked a proper foundation should be laid for it, namely, first, proof of the making of profits by the defendant "attributable" to the use of the patented improvement or invention; and second, proof that it was practically "impossible" to properly apportion or segregate such profits from the general profits made on the infringing machine. The first requisite—that profits exist *attributable to* the patented improvement—can only be established by applying the doctrine of the *comparison* of profits realized from the use or

sale of the patented machine and the best and most perfect machine that the defendant was free to have used or sold. Until this comparison has been made it cannot be said that *any* profits *attributable* to the patented invention have been realized, and until that fact has been established, there can, of course, be no showing that these unestablished profits are inextricably commingled with the general profits of the business. Indeed, until regularly and legally established through a proper comparison their very existence is unknown. As no comparison was made in this case with the proper standard —the coil spring Van Brunt and similar non-infringing machines, selling in competition with the machines the defendants sold, and free for them, as merchants, to have bought and sold—there is no proof whatever in this case that the defendants made *any* profits from the use of the patented invention *for which* they ought to account. There is, therefore, an absence of the first ground requisite for the application of the equitable doctrine as to the confusion of goods.

But proof that the defendants have made profits attributable to the use of the invention and not to something else is not enough. This court in the Westinghouse-Wagner case says that the equitable doctrine as to the wrongful confusion of goods or profits does not apply "until the plaintiff has proved the existence of profits attributable to his invention *and demonstrated that they are impossible of accurate or approximate apportionment.*" In this case the complainant has not only failed to show that the defendants have made profits attributable to the invention by applying the doctrine of comparison to the right standard—the non-infringing *coil* spring pressure device *shoe* drills like the Van Brunt and others sold in competition with the defendants' drills and free for them to have bought and sold—but it has offered no proofs to show that such profits are "impossible of accurate or approximate apportionment." In short, the complainant

has not met either requirement conditioning the application of the rule as to the wrongful confusion of goods or profits.

There was no great difficulty, much less impossibility, in complying with the rule as to making comparison and apportionment between the Hoyt *rod* spring pressure device drills and the Van Brunt and other *coil* spring pressure device drills to show the profits, if any, that the defendants made in selling the one over what they would have made in selling the other. This is shown by the fact that the complainant made a comparison and apportionment between the cost, the selling price and the profits resulting from its own manufacture and sale of the patented drills and the old *hoe* drills that lacked the Hoyt improvement. This comparison and apportionment will be found in the "Dowagiac Accounting Schedules" beginning on page 1053 of the Record. But this comparison and apportionment as to what the *complainant* made in the one drill over the other does not show nor tend to show that the *defendants* made profits (*Manufacturing Co.* v. *Adams*, 151 U. S., 139-148), and this is especially so in view of the fact that the comparison and apportionment was made between the patented drill and a drill which was *not on sale* in the Northwest territory, or *in competition with* the defendants' drills. But it shows that a comparison and apportionment could be made between the patented drills and others by separating them into their various parts and showing the cost of material and labor involved in each item, the overhead expenses distributed, the cost of effecting sales, and so forth, and the net profits arrived at with approximate certainty. If this could be done with reference to the *hoe* drills that were not sold in competition with the defendants' drills, and the complainant showed that it could, there is no apparent reason why it could not have been done with reference to the *coil* spring pressure *shoe* drills like the Van Brunt and others

that *were* sold in competition with the defendants' drills, and were not an infringement of the Hoyt patent, and were open to the defendant to have bought and sold. We see no reason why the complainant could not have made the comparison with the coil spring pressure *shoe* drills as readily as it made it with the non-competing *hoe* drills. The complainant has shown no reason preventing it from making the comparison and apportionment. It must, therefore, be assumed that there was no reason and that the omission of such comparison was voluntary and deliberate.

There was no great difficulty, much less impossibility, in complying with the rule as to making apportionment between the Hoyt improvement and the fundamental combinations and features that were embodied in the drills as they existed before the Hoyt improvement and to which such improvement was added, as such fundamental features were pointed out by Mr. Bond and conceded and acquiesced in by Mr. Fowle and Mr. Swayne, as already explained. This is shown by the fact that the complainant made an apportionment between the drills containing the Hoyt improvement and the same drills containing the improvements of 8 other patents owned by the complainant, to show how much these eight other improvements contributed to the profits made by the complainant in the manufacture and sale of the patented drills. This apportionment begins on page 241 of the Record and extends through a number of pages. No reason is shown why it would have been any more difficult to have made a similar apportionment between the old pre-existing drills containing the essentials and fundamentals of a practical mode in grain drill without the Hoyt improvement and the same drill with such improvement. If it required less metal and less labor to make the Hoyt *rod* spring pressure device than the old *coil* spring pressure device like the Van Brunt and others, the saving and advantage could easily have been shown. Or

if drills with the Hoyt *rod* spring pressure device sold for *more* than the old *coil* spring pressure device like the Van Brunt and others, the difference in selling price could easily have been shown. If, for illustration of the last statement, a *coil* spring pressure shoe drill, like the Van Brunt and the others, sold for $40, and the *same* drill with the Hoyt *rod* spring pressure device sold for $42.50, then the difference in price, less the difference, if any, in the cost of making and applying the one device or the other, or in marketing the machine containing the one device or the other, would presumptively reasonably represent the profit attributable to the Hoyt improvement. This would have been an easy and intelligible method of making the apportionment. But no effort was made to effect any such apportionment, and no testimony offered to show that such apportionment was not practicable or possible.

In view of the facts and considerations above, we think it is plain that no reason whatever is shown in this case for the non-application of the doctrines of comparison and apportionment or ground for invoking the equitable doctrine applicable to the wrongful confusion of goods or profits by which a separation or segregation of them has become either difficult or impossible. This is simply one of those cases where the complainant has failed to show that the defendants have made any profits *attributable* to the patented improvement, determined by applying the test of a comparison with the right standard—a *shoe* drill similar to the ones the defendants sold, doing similar work in the same territory, subjected to similar conditions of use, provided with the old *coil* spring pressure devices, not infringing the Hoyt patent and free for the defendants to have dealt in—and has likewise failed to apportion the profits between the old essential and fundamental combinations and inventions embodied in the drills, as pointed out by the defendants' and conceded by the complain-

ant's witnesses, and the superposed Hoyt improvement, introduced into the machine by removing the *coil* spring pressure device and introducing the *rod* spring pressure device in its place.

Under the proofs as they stood in these cases, we submit that the complainant was only entitled to nominal damages, as found by the Master, the Circuit Court and the Circuit Court of Appeals.

As the complainant has made no proper comparison to show that the defendants have made any profits over what they would have made by dealing, as merchants, in the *coil* spring pressure device non-infringing *shoe* drills, like the Van Brunt and others, and has made no apportionment of profits attributable to the Hoyt improvements after separating them from the profits attributable to the other fundamental inventions contained in the drill, and has presented no proof to show that the profits had been so inextricably mixed and confused that an apportionment was impossible, it is plain that the complainant is entitled to nothing more than nominal profits, *unless* its proofs have clearly and fully established that *all* of the savings and profits realized by the defendants in their dealings in the infringing drills, if any, are to be attributed to the improvement of the Hoyt patent sued on. This brings us to the question as to whether the proofs show that *all* of the savings or profits are to be attributed to the improvement covered by the first, second and third claims of the Hoyt patent found to be infringed. The principle or rule governing this branch of the inquiry may be expressed in the following proposition:

To escape the necessity of apportioning the profits or damages as required by the decisions quoted, the plaintiff or complainant must show by reliable and tangible evidence

that the principle of apportionment is for some reason inapplicable to his case, and that the profits and damages are to be calculated on the whole machine on the ground that the patented feature confers on the whole machine its entire value as a marketable article.

In the leading case of *Garretson* v. *Clark*, 111 U. S., 121, this court stated the general rule and the exception to it in a single sentence, as follows:

> "The patentee must in *every* case give evidence tending to separate or apportion the defendant's profits and the patentee's damages *between* the patented feature and the *un*patented features, and such evidence must be reliable and tangible, and not conjectural and speculative; or he must show by equally reliable and satisfactory evidence, that the profits and damages are to be calculated *on the whole machine*, for the reason that the *entire* value of the whole machine, *as a marketable article*, is properly and legally attributable *to* the patented feature."

Note the ground on which this court allows the entire profits. It is not on the ground that the claim is a *combination* claim, but on the ground that the "entire" value of the whole machine as a "marketable" article is attributable to the patented feature. No other ground is suggested or recognized. Nor do they suggest that the "reliable and satisfactory evidence" required is furnished by pointing to the *form* of the claim as being couched in the language of a combination.

The right of a patentee to recover all of the savings or profits on the ground that his invention contributed everything of value to the device or machine involved in an accounting, depends upon the *exception* to the rule above establishing the doctrine of apportionment of profits and damages. As it comes under the *exception* to the rule, it must, like all matters of exception to general rules, be established in the

plainest and most unequivocal manner. It is a general principle of law that *exceptions* to general principles are to be *strictly* construed, and to bring a party within an exception his evidence must be exceptionally strong and convincing. It must not be a matter of conjecture, speculation, guess or doubt. It must be founded upon plain, tangible and reliable facts. This brings us to one contention on which we understand the complainant insists in addition to the combination form of its claims, namely, that in *this* case "the profits and damages are to be calculated on the whole machine, for the reason that the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature." And evidence to establish this contention this court says "must be reliable and tangible, and not conjectural or speculative."

It may be well at this point to pause and consider the *kind* of cases in which this court has allowed the profits and damages to be calculated on the whole machine. A close examination of the cases in which this court has applied the exception to the general rule for the ascertainment of profits and damages will show, beyond question, we think, that they are confined to cases in which the patent was for *a new article* of manufacture, or to cases in which the patented device was applied to a *particular* use to which it *alone* was applicable, and without which the work could not be done, or to cases in which the defendant was the *only* competitor and the damages consisted in a *reduction in prices*—cases resting on facts not existing in this case. In no case has this court based such allowance on the ground that the claim was a *combination* claim.

In *Elizabeth* v. *Pavement Co.*, 97 U. S., 141, where this court allowed the entire profit, the decision was based on the ground that the Nicholson pavement was a *complete thing* in, of and by itself, saying:

"Nicholson's pavement, as before said, was a *complete* combination in itself, differing from *every other* pavement. The parts were so correlated to each other, from bottom to top, that it required them all, put together as he put them, to make the complete whole, and to produce the desired result. The foundation impervious to moisture, the blocks arranged in rows, the narrow strips between them for the purposes designated, the filling over those strips, cemented together, as shown by the patent—all were required. Thus combined and arranged, they *made a new thing, like a new chemical compound.*"

In *Manfg. Co.* v. *Cowing*, 105 U. S., 255, this court allowed the entire profits on the ground that the oil pump involved in controversy could not be used *without* the improvement and on the ground that without the patented pump there *was no other way* of doing the work, quoting from the Mowry-Whitney case, and saying:

"If, without the improvement, a machine adapted to the same uses can be made which will be valuable in the market, and salable, then, as was further said in that case, the inquiry is, 'what was the advantage in cost, in skill required, in convenience of operation or marketability,' gained by the use of the patented improvement? If the improvement is required to *adapt* the machine to a particular use, and *there is no other way open to the public* of supplying the demand for that use, then it is clear the infringer has by his infringement secured the advantage of a market *he would not otherwise have had*, and that the fruits of this advantage are the entire profits he has made in that market."

In *Dobson* v. *Hartford Carpet Co.*, 114 U. S., 445, this court stated that the case of *Mfg. Co.* v. *Cowing, supra*, "was an *exceptional* case," and added

"The general rule was recognized in that case, and the exception was made, in regard to the oil well gas pump there involved, because there was only a limited and local demand for it, *which could not be*, and was not, supplied by any other pump."

In *Yale Lock Co.* v. *Sargent*, 117 U. S., 553, this court allowed all the damages, consisting in reduction of prices on the ground that the *defendant* was the *only party competing* in the sale of the locks, saying:

> "The evidence shows that the reduction of prices by Sargent was *solely* due to the defendant's infringement. The *only* competitor with Sargent in the use of his turning bolt arrangement, during the period covered by the accounting, was the defendant."

In *Hurlbut* v. *Schillinger*, 130 U. S., 472, this court allowed all of the profits on the ground that the plaintiff's invention was the *only* one that *could* have been used, saying:

> "It clearly appears that the defendant's concrete flagging derived its entire value from the use of the plaintiff's invention, and that if it had not been laid in that way it *would not have been laid at all.*"

In *Crosby Valve Co.* v. *Safety Valve Co.*, 141 U. S., 453, this court allowed all of the profits on the ground that the valve in question would not have had any commercial value without the patented improvement, saying:

> "The safety valves known to the art and open to be used by the defendant would not *do the same work* as the Richardson invention covered by the patent of 1866, *or have any commercial value.*"

In *Sessions* v. *Romadka*, 145 U. S., 45, this court used this language:

> "Profits upon the entire article are *only* allowable where such article is *wholly* the invention of the patentee, or where its *entire* value is properly and legally attributable to the patented feature."

In *Warren* v. *Keep*, 155 U. S., 268, this court said:

> "Where the patented invention is for *a new article* of manufacture, which is sold *separately* the patentee is

entitled to the damages arising from the manufacture and sale of the entire article."

The above cases in this court define the *kinds* of inventions in which the patentee or complainant is entitled to recover the entire profits, or, in other words, to avail himself of the *exception* to the general rule as to the apportionment of profits and damages laid down in *Garretson* v. *Clark*. The Circuit Courts have observed the same limitations when the question has arisen before them, as quotations from a few cases will show.

In *Reed* v. *Lawrence*, 29 Fed. Rep., 918, Judge Severens said:

> "When the patented feature which has been infringed by the defendant is one which was the sole element of value in the thing manufactured, *so that but for it the article would not be marketable, because not sufficiently useful for the purpose to which it was intended*, the defendant is liable for the whole profits of the manufacture."

In *Mosher* v. *Joyce*, 45 Fed. Rep., 206, Judge Sage, said:

> "I am satisfied that each of the complainant's patents is for an improvement only, and not for *an entirely new machine or contrivance*, and that the patentee must show, as was held in *Garretson* v. *Clark*, 111 U. S., 120, in what particulars his improvement has added to the usefulness of the machine or contrivance."

In *Elgin Wind Power & Pump Co.* v. *Nichols*, 105 Fed. Rep., 784, the U. S. Circuit Court of Appeals for the 7th Circuit, Judges Woods, Grosscup & Bunn, said:

> "The first patent is more important, in that it shows improvements upon indispensable parts of a wind mill, but it does not *in itself*, like the Nicholson invention, constitute 'a *complete* thing,' certainly not 'a new thing, like a new chemical compound.' On the contrary wind

> mills resembling in *general structure*, and in many *essential parts mechanically identical* with the Nichols mill, had been long in use before this patent was applied for. It does not profess to be for an *entire* device, but for improvements only, and they not general and comprehensive of an entire mill, but limited to the method of mounting, of which the specified purpose is to lessen friction and secure a smooth and easy movement of the parts designated. The claims differ in minor particulars, but no one or all of the five can be regarded as embodying a complete wind mill."

The invention of the Hoyt patent comes within neither of these kinds of inventions specified by the court as justifying or requiring the profits or damages to be assessed under the *exception* to the Garretson-Clark rule. Indeed, the facts in reference to the Hoyt invention and the defendant's infringing drills may be compressed into a single proposition of fact, using the language of the decisions, as follows:

The Hoyt invention is not for a "complete" grain drill, but for improvements in grain drills; it is not for a new "thing like a new chemical compound"; drills "without the improvement"—with coil spring pressures—"can be made which are valuable in the market and salable"; the invention is not "required to adapt the machine to a particular use"; it is not one without which "there is no other way open to the public of supplying the demand for that use"; it did not give the defendants "the advantage of a market they would not otherwise have had"; the invention is not for "an entirely new machine"; the defendants were not "the only competitors"; the invention is not one without which the drills open to the defendants "would not do the same work"; the invention is not for "a new article of manufacture which is sold separately"; the invention "does not profess to be for an entire device, but for improvements only"; the infringing drills are not "wholly the invention of the patentee";

and are not such as that "their entire value is properly and legally attributable to the patented feature."

The necessity of adding other essential and indispensable parts to those enumerated in the first, second and third claims of the Hoyt patent in order to make a practical and marketable grain drill, as specified in the three remaining claims, not to mention the various essentials enumerated by Mr. Bond, and conceded by the complainants' witnesses, Fowle and Swayne, shows that the first, second and third claims of the Hoyt patent do not cover a *complete* thing, an *entire* machine or device, *a new article* of manufacture, something that *in itself* constitutes a complete implement, to use the language of the decisions above quoted. The invention of the first, second and third claims of the Hoyt patent is not one which necessarily "is required to adapt the machine to a particular use;" is not one where "there is no other way open to the public of supplying the demand for that use;" and is not one which enabled an infringer to secure "the advantage of a market he would not otherwise have had," to use the language of this court in the *Manfg. Co.-Cowing* case. It is not for an article to meet a demand "which could not be, and was not, supplied by any other" grain drill, to quote from this court in the *Dobson-Hartford Co. case.* It was not for something in which "the *only* competitor" was the defendant so as to make it liable for the entire profits, if any, to use the language of this court in the *Yale-Sargent* case. It was not for something which, if it had not been employed, grain drills "would not have been" used at all, to quote from the decision of this court in the *Hurlbut-Schillinger* case. It was not for a device without which other drills "would not do the same work," or "would not have any commercial value," or would not be "a marketable article," to quote the language of this court in the *Crosby Valve-Safety Valve* case. It was not for something "which is sold separately," to use the lan-

guage of this court in the *Warren-Keep* case. It was not for something without which "the article would not be marketable," or would not be "sufficiently useful for the purpose to which it was intended," to use the language of Judge Severens in the *Reed-Lawrence* case. It was for something to be used *in* grain drills "resembling in general structure and in many essential parts mechanically identical" with the grain drills that did not contain it, to use the language of the Court of Appeals in the *Pump Co.-Nichols* case. The fact that out of approximately 20,000 grain drills sold during the infringing period by infringers in the Northwest, containing the Hoyt invention, according to the statement of Mr. Fowle, in answering X-Q. 24 on page 162, the *defendants* sold only about 2,000—about one in ten—and that during the infringing period nearly twice 20,000 non-infringing *coil* spring pressure shoe drills were sold, shows that these defendants were not "the only competitor," to use the language of this court in the *Yale-Sargent* case, which the complainant had in selling its Dowagiac drills.

An analysis of the decisions of this and other courts in which the entire profits made or realized by the defendant have been allowed under the exception to the general rule stated in the *Garretson-Clark* case will show that these cases cannot fall within such exception because they cannot be included in any of the classes or kinds of inventions or any of the classes or kinds of circumstances enumerated by the courts as justifying such an exceptional recovery. Not only has the complainant failed in its evidence to bring these cases within the general rule by omitting to apportion the profits, if any, realized by the defendants, but it has also failed to establish any ground *recognized by this* court on which it is entitled to an award of the *entire* profits, under the exception to the rule, namely, that "the entire value of the whole machine, as a *marketable* article, is properly and legally attrib-

utable'' to the Hoyt invention, to quote this court in the *Garretson-Clark* case.

General Summary as to Profits.

As the complainant has made no *comparison* with the various non-infringing shoe drills on the market which the defendants might have lawfully bought and sold, nor shown that they have made any profits by dealing in *in*fringing drills that they would not have made by dealing in *non*-infringing coil-spring shoe drills, nor offered competent, reliable proof that the defendants made any actual profits, but relied merely on the percentage between general expenses and general sales to show net profits in the drill business, nor made, nor attempted to make, any *apportionment* of profits between the Hoyt improvement and the other features of the drill, nor shown that the claims of the Hoyt patent are for substantially an entire *new* machine or drill, nor brought the facts of the case within the *other* exceptions to the rule requiring apportionment of profits, it is plain that it is not entitled to recover profits in any amount whatever.

Can the Complainant Recover Damages in this Case?

It is contended, on the part of the complainant that it is also entitled to recover on the ground of *damages* and, as we understand complainant's counsel, the contention is that the complainant has been *deprived of the sales* of shoe drills which the defendants made, and that the profits which the complainant would have realized *if* it had made the sales which the defendants made, are the measure of its damages. It is further claimed, as we understand, that the complainant was forced to reduce its prices and increase its expenses because of the infringement. No claim of any established royalty is made because none existed. The claim is based on the loss of sales

to the complainant occasioned by the sales which the defendants made, reduction of prices, etc.

There are cases where the complainant is permitted to recover as damages the profits which it would have made in case it had made the sales made by the defendant. In these cases, however, it is necessary to establish by full, tangible and reliable evidence, that the complainant *would have made* the sales had it not been for the defendants' infringement. The principle that governs may be thus stated:

A patentee who manufactures and sells his invention may recover in the shape of damages the profits which he would have made had he sold the infringing machines, but only to the extent of the sales that he can show that he would have made. There is no presumption that he would have sold the machines which the infringer sold or any of them. The fact that he had the capacity to manufacture them and to put them on the market is not sufficient to raise a presumption that he would have sold them or any of them so as to dispense with the proof that he actually would.

In *Seymour* v. *McCormick*, 16 How., 486, the court below instructed the jury that

> "If the defendants had not interfered with the patentee, all persons who bought the defendants' machines would necessarily have been obliged to go to the patentee and purchase his machine. That is the principle on which the profits that the patentee might have made out of the machines thus unlawfully constructed, present a ground that may aid the jury in arriving at the damages which the patentee has sustained."

When the case reached this court, however, this rule or presumption was repudiated, the court on page 490 saying:

> "Actual damages must be actually proved, and cannot

be assumed as a legal inference from any facts which amount not to actual proof of the fact. What a patentee 'would have made if the infringer had not interfered with his rights,' is a question of fact and not 'a judgment of law.' The question is not what speculatively he may have lost, but what actually he did lose. It is not a 'judgment of law' or necessary legal inference, that if all the manufacturers of steam engines and locomotives, who have built and sold engines with a patented cut-off, or steam whistle, had not made such engines, that therefore all the purchasers of engines would have employed the patentee of the cut-off, or whistle; and that, consequently, such patentee is entitled to all the profits made in the manufacture of such steam engines by those who may have used his improvement without his license. Such a rule of damages would be better entitled to the epithet of 'speculative,' 'imaginary' or 'fanciful' than that of 'actual.'"

In *Dobson* v. *Hartford Carpet Co.*, 114 U. S., 443, this court said:

"The circuit court proceeded on the ground, as stated in its decision 10 Fed. Rep., 385 that it was to be presumed that the defendants' carpets displaced in the market an equal quantity of the plaintiffs' carpets; and that the profits which the plaintiffs would have made on that quantity of carpets was the measure of their damages. . . . Leaving out of view all question as to the presumption that the plaintiffs would have made and sold, in addition to the carpets of the patented designs which they did make and sell, the infringing carpets which the defendants made and sold, which are alleged to have been of poorer quality and cheaper in price, it is plain that the price per yard allowed as damages was the entire profit to the plaintiffs, per yard, in the manufacture and sale of carpets of the patented designs, and not merely the value which the designs contributed to the carpets. There was no evidence as to that value. . . . The decrees must, therefore, all of them be reversed as to the damages awarded."

In *Dobson* v. *Dornan*, 118 U. S., 17, this court said:

"The master found that the plaintiffs' profits on their

carpets was a certain percentage, and assumed or presumed that the defendants' carpets, which were far inferior in quality as well as in marked value, displaced those of the plaintiff's to the extent of the sales by the defendants, and held that the entire profit which the plaintiffs would have received, at such percentage, from the sale of an equal quantity of their own carpets of the same pattern, was the proper measure of their damages. The defendants' carpets were so inferior in quality that they sold them at a much less price than the plaintiffs got for their carpets, and even at those prices the defendants made no profits. Under these circumstances there can be no presumption that the plaintiffs would have sold their better quality of carpets in place of the defendants' poorer quality, if the latter had not existed, or that the pattern would have induced the purchasers from the defendants to give to the plaintiffs the higher price. On the contrary, the presumption is at least equal that the cheaper price, and not the pattern, sold the defendants' carpets. There was no satisfactory testimony that those who bought the cheap carpets from the defendants would have bought the higher priced ones from the plaintiffs.

. . .

"The objection is to taking the whole of that profit as the measure of damages, on the assumption that the whole of it was due solely to the design, and on the further assumption that the plaintiffs would have sold of their higher grade carpets a quantity equal to the cheaper lower grade carpets sold by the defendants."

In *Cincinnati Gas Co.* v. *Western Siemens Co.,* 152 U. S., 204, where the defendant was claiming damages in recoupment, this court said:

"Neither was the defendant entitled to any other damages by reason of the sale by the plaintiff than the profits which the latter received. There is no presumption that the Cincinnati Co. would have been able to sell or place any lamps in Middletown at the prices it demanded."

In *Goodyear* v. *Bishop,* 2 Fish. Pat. Case, 159, Judge Shipman in charging a jury said:

"You are to examine the evidence, and say whether

there is sufficient proof to satisfy you that any and how many customers were diverted from the plaintiffs to the defendants; whether the plaintiffs were prepared to supply, and were prevented from supplying the articles made by the defendants; in short, whether, by the competition of the defendants, the plaintiffs were limited, hindered, checked, or interfered with in their business, or otherwise actually damaged in this sum, equal to the profits which they could have made if they had made and sold the same goods made and sold by the defendants over and above what they (the plaintiffs) did in fact make and sell."

In *Carter* v. *Baker*, 4 Fish. Pat. Cas., 420, Judge Sawyer, charging a jury—the italics being those of the court—said:

"The plaintiffs may have chosen to sell at a higher rate, and they were entitled to sell at a higher price, if they were able to get their plows off in the market at higher prices. But, with reference to this question, the jury should also take into consideration the probabilities, as developed by the evidence, as to whether, if the defendants had not infringed the patent, the plaintiffs would have been able to sell as many machines at a *higher* price, or as many at *any* price, as have been sold by both plaintiffs and defendants together."

In *Buerk* v. *Imhaeuser*, 2 Banning & A., 454, Judge Johnson said:

"It was not made to appear that the plaintiff could have sold his watches to the persons who purchased from the defendants. The watches have been adjudged to be identical in principle, but they differ in structure and appearance; and it cannot be known that those who bought the infringing article would have bought the plaintiff's watches under any circumstances. The difference in structure as well as the difference in price enter into that question, and no means are afforded for determining it by the proofs. *Smith* v. *Prior*, 2 Sawyer, 461; *Carter* v. *Baker*, 1 Id., 512."

In *Ingersoll* v. *Musgrove,* 3 Banning & A., 306, Judge Blatchford said:

> "The question, whether the prices which the plaintiff received for his cuspidors was less than those which he would have received but for the infringements by the defendants, is a question of fact. Such, also, is the question as to the amount of the reduction, and as to how much of it was occasioned by the acts of the defendants, and as to how much of it was attributable to the fact that the infringing articles contain the patented feature of the plaintiff's patented cuspidors. Such, also, is the question as to whether, if the infringing cuspidors had not been sold, the plaintiff would have sold any greater number of the patented cuspidors than he did sell, and what profit he would have made on them, and what part of such profit is to be assigned to the distinctive patented feature of the cuspidors. It is for the plaintiff to establish, by satisfactory evidence, not only that a reduction of his prices was caused by the infringements, but how much such reduction was, and how much of it was occasioned by the acts of the defendants, and how much was due to the fact that the infringing articles contained the patented feature of the plaintiff's patented cuspidors. . . . So also, it is for the plaintiff to establish, by satisfactory evidence, that he would have sold more of the patented cuspidors than he did sell, if the infringing cuspidors had not been sold, and what profit he would have made on them, and what part of such profit is to be assigned to the distinctive patented feature of the cuspidors. I see no proper foundation, in the evidence, for the conclusion, that, if the defendants in the first case had not sold the 1003 infringing cuspidors, the plaintiff would have sold 1003 more of the patented cuspidors than he did sell."

In *Garretson* v. *Clark,* 3 Banning & A., 355, Judge Blatchford, in his own language and in the language of the Master, which he adopted, stated and answered all the arguments that can be advanced on the part of the complainant in this case as to the contention now under consideration, and we will quote from him at great length, particularly as his decision

was affirmed in this court and has stood ever since as the leading decision on the question of the apportionment of profits and damages.

"The evidence showed that Garretson had invented and patented an improvement in mops; that the mops made by him and embodying the improvement were successfully introduced into the market; that after the manufacture and introduction by the defendants of the infringing article, the trade of the complainant had decreased; and there was much documentary and other evidence produced to show the amount of the cost and of the sales by both parties. All this testimony was given on the theory, which is the complainant's position in this case, as I understand it, that the claims infringed are indispensable to the success of the mop and form the only and vital part and principle of its operation. In other words, it is claimed that this mode of construction, connection and operation of the collar and loose jaw, is all there is, practically speaking, of the mop. By the patents themselves, and the claims thereof, it is clear that the complainant's invention is not of a machine, but of an improvement. He has taken the mop, an instrument in use from time immemorial, and claims that, by the introduction of a new mode of constructing and operating it in one of its parts, he has added to it all that is valuable in it. The complainant has given before me no evidence aimed at the separation of the damages, or the apportionment of a certain proportion of the defendants' profits in manufacturing mops, as belonging to the peculiar features which are the complainant's invention, and which the defendants have wrongfully adopted and incorporated into the instrument made and sold by them. He rests all his evidence on the proposition, that his invention covers the whole ground and lends to the article manufactured by the defendants all its value. I cannot agree to that view, upon the evidence submitted. The complainant's invention has peculiar and distinctive features in the form of construction and operation referred to, but these features alone do not constitute a mop, and there were many valuable mops in the market before these features were at all introduced. The evidence shows many such mops as made in the past, and even as made in the present, for the defendants appear to be now sell-

ing with success a mop not claimed to infringe the complainant's invention. The complainant has given no testimony before me to satisfy my mind that the sole salability of the mops in question arose from their possessing the features I have referred to as embodied in the complainant's invention. These features are the form of the construction of the collar in two pieces, the mode of connecting the collar and the nut, the presence of flanges on the latter, and its enclosure within the circuit of the former. The nut, the collar, the wire-binder, the cross-head fixed and riveted to the handle, the grooving of such cross-head, the notching of its ends to steady and guide the wire-binder, the threaded shank, the connection and securing of the wire-binder to the collar—all these are independent of the plaintiff's improvement, and most of them are old in the history of the invention. Yet, they contribute to the successful operation of the mop, and are found in the mops of the complainant as well as those made by the defendants. Combinations of these various elements of invention, in different forms, are found in most, if not all, of the exhibits in the case. Some of these elements are common to all the successful mops spoken of by the witnesses, and may be considered as quite indispensable to the construction and practical operation and salability of the instrument. I cannot believe that none of them contributes any value to the mops in question. As these elements and combinations exist in the mop made and sold by the defendants, and adjudged to be an infringement, the finding of more than nominal damages for the complainant would, on the complainant's theory, involve the proposition that there is not, among all of these elements or combinations, any one that involves a principle of sufficient practical use to add to the salability or actual value of the machine. I believe, on the contrary, that all of these elements have combined to make the mops in question successful, and it is too much to say that no proportion of the trade diverted from the complainant by the defendants, or of the profits they realized from the sale of their mop, was due to the presence of some one or more of them. At least, while so many elements of success are present in the instrument, I would not be warranted in finding that its entire success was due to its embodiment of the complainant's invention, unless direct evidence on that sub-

ject were furnished. As no evidence has been given before me of damages resulting to the complainant, or of profits accruing to the defendants, from the manufacture and sale of the improvement of the complainant, as distinguished from the machine itself, I find for the complainant nominal damages only.

"The plaintiff has excepted to the master's report. The exceptions insist that the actual damages to the plaintiff, for the mops made and sold by the defendants in infringement, which the plaintiff would have made and sold but for the infringing manufacture and sale by the defendants, are the difference between what the manufacture and sale of such mops would have cost the plaintiff, and the amount for which the plaintiff would have sold such mops; and that the amount of the profits made and received by the defendants, by reason of the infringement adjudged, is the difference between what the manufacture and sale of the infringing mops made and sold by the defendants cost the defendants, and the amount for which the defendants sold said infringing mops.

"There is, thus, a pointed antagonism between the views of the master and those contended for by the plaintiff. I have cited, thus fully, the text of the master's views, because it would be difficult to express, in more apt words, the considerations properly applicable to the determination of the questions involved in this case. They may be amplified and illustrated, but the master has expressed, with clearness and force, the true principles which, on the evidence before him, apply to this case.

"The argument on the part of the plaintiff is, that, at the time the defendants began to infringe, the plaintiff's mop and the mop of one Taylor held a monopoly of the market, and were not competed with seriously by other mops, or to an extent which interfered with an arrangement which had been made between the proprietors of the patents covering the plaintiff's mop and the proprietors of the patent covering the Taylor mop, whereby the price of those two mops was maintained at $2 a dozen, affording a profit of at least $1 a dozen; that the defendants sold the infringing mop at $1.75 a dozen; that the plaintiff had an establishment at which he could have made mops enough to fill all ordinary orders for mops; that his mop was known and his trade was established; that

the effect of the infringement was to cause a large falling off in the plaintiff's sales; that it was the taking, without right, of the plaintiff's patented improvements, which enabled the defendants to enter the mop market, because the plaintiff's mop and the Taylor mop had substantially driven out of the market all other mops, by making it impossible to sell such other mops at a profit; that, while it is generally true that the patentee of an improvement in an article is not entitled to the profits on the sale of the whole article, the rule is otherwise when, as a matter of fact, the improvement so dominates and controls the article in the market held as an exclusive monopoly by the patentee, that the only way in which the article can be sold at all at a profit, is through the sale of it with the patented improvement; that the advantage which the defendants gained was a market for mops at a large profit, when there was no other form of mop open to the public by which they could have obtained any considerable sale at a profit; and that the only way to reach a result consonant with the substantial justice of this case, is to regard the mop as an article of commerce, under the operation of laws whereby an improved article will supersede and displace an unimproved one, destroying the possibility of producing it at a profit, and thus driving it out of existence, so that the superior article, by virtue of its superiority, dominates in the market until it in turn gives way in the progress of new improvements in its kind.

"It is a weak point in the argument for the plaintiff, that it assumes, without sufficient evidence, that the market for the plaintiff's mop was made solely by the fact that the mop contained the improvements patented by the plaintiff's patents. This would not follow, even from the fact that the mop, with such improvements, had driven other mops out of the market. Energy, diligence, business tact, superior facilities and skill, and fortuitous circumstances, contribute largely to the success in the market of even an article which has all the superiority, in its line, that is claimed for the plaintiff's mop. In the present case, there was an especial element, entirely outside of plaintiff's patents, which made the manufacture and sale of the plaintiff's mop profitable, and that was the combination with the owners of the Taylor patent, under which the price of both mops was fixed at $2 a dozen.

"The argument on the part of the plaintiff leads to the conclusion, that, when an article or a machine, with a given patented improvement embodied in it, has a controlling preference in the market, over the article or machine which does not embody such improvement, it must be conclusively inferred that such preference is due to the improvement; and that the patentee, in case of infringement, is entitled to the profits made by the infringer from the manufacture and sale of the whole article or machine, and is entitled, as damages, to the profits he would have made on the manufacture and sale of an equal number of entire articles or machines made and sold by the infringer. This would often cause a small improvement on a costly machine to draw to itself very large profits, entirely out of proportion to the relation existing between the improvement and the rest of the machine, and, in cases where the unpatented parts of the machine were quite as indispensable to the machine as the patented improvements, and even more indispensable. The profit on the entire machine would virtually become the license fee for the use of the patented improvement. In the case of a machine embodying several patented improvements, in infringement of several patents belonging to several different persons, each patentee would claim that it was his particular patented improvement which caused the machine to dominate the market, and each would claim the profits of the manufacture and sale of the entire machine, and damages based on the same principle. The patentee must, in every case, give evidence tending to separate or apportion the defendants' profits and the patentee's damages, between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative; or he must show, by equally reliable and satisfactory evidence, that the profits and damages are to be calculated on the whole machine, for the reason that the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature."

In *Burdette* v. *Estey*, 3 Fed. Rep., 570, where the defendant had made no profits, Judge Wheeler said:

"The statute provides that in cases like this an ac-

count of the damages may be taken, and they be decreed to the orator. Rev. Stat. U. S., Sec. 4921. But they must be proved to the master, as, in actions at law, they must be to the jury. This case furnishes no evidence from which such damages could be found with any satisfactory or sufficient degree of exactness. It does not at all appear that the orator would have supplied organs in place of these on which no profit was made for the partial set, if the defendants had not disposed of them without profit; and, without some such proof, the damages could not be found. *Buerk* v. *Imhaeuser*, 14 Blatch., C. C. R., 19."

In *Maier* v. *Brown*, 17 Fed. Rep., 738, Judge, afterwards Justice, Brown said:

"It is true that defendant may have sold trunks which the plaintiff would have sold if defendant had not infringed, but the damages thereby occasioned cannot be inferred without proof. *Buerk* v. *Imhaeuser*, 2 Banning & A., 452. Defendant's sales may have been the result of superior energy, diligence, and business capacity, or of the accidents of trade; and we think the burden is upon the plaintiff to show that such sales were attributable to the increased value given to the trunk by his patent."

In *Hall* v. *Stern*, 20 Fed. Rep., 789, Judge Wallace said:

"The damages to which complainants are entitled is the loss which they sustained by the diversion of trade which they would have enjoyed if the defendants had not supplanted them in the market, and their consequent loss of profit on such trade. The master has awarded them damages on the theory that they lost the sale of all the mirrors imported and sold by the defendants during the period in question. The proofs do not justify this conclusion.

"The question is not what speculatively the complainants may have lost, but what they actually did lose. If the defendants had not sold the patented mirrors to their customers, it does not follow that the complainants would have sold them to the same customers or to retail merchants. *Seymour* v. *McCormick*, 16 How., 480. . . .

"The competition of the defendants had ceased so re-

cently at the time of the accounting that the effect upon complainants' sales afterwards could not be satisfactorily established. For aught that appears, the defendants created a market by their own enterprise, and by selling the mirrors at a reduced price that otherwise would not have existed. It cannot be legitimately inferred that the defendants would have sold the same number of mirrors if they had maintained the higher price; on the contrary, it is fair to presume that the usual law of trade operated, and that the reduction in price attracted purchasers and increased the number of sales. . . .

"As a sufficient time has now elapsed to ascertain to what extent the ceasing of the defendants competition increased the subsequent sales of the complainants, an element in the computation which was wanting at the time of the accounting may now be supplied. The case will be sent back to the master, with leave to the parties to re-open the proofs."

In the above case it will be noticed that Judge Wallace attached importance to the effect of the cessation of the infringement on the complainant's sales as a basis for inference as to whether the defendants' sales really interfered with the complainant's sales. In this case the infringement ceased with the year 1902. So we asked Mr. Fowle on page 1046 of the Record, as follows:

"X-Q. 24. I believe your sales of shoe drills for the years 1902-03 were 1861 shoe drills. This is about correct, is it not?

"A. I think so.

"X-Q. 25. I wish you would kindly state in a general way whether the sales of the shoe drills by the Dowagiac Co. for the years 1903-04 and 1904-05, were larger or smaller than for the year 1902-03.

"A. I believe they were somewhat less."

If the complainant's sales of Dowagiac drills did not increase after the defendants ceased selling infringing drills, but rather decreased, how can it be said that the complainant

would have sold the drills which the defendants sold if it had kept out of the market?

In *Reed* v. *Lawrence*, 29 Fed. Rep., 919, Judge Severens said:

> "The court is required to take judicial notice of what is commonly known in the various branches of manufacture and industry. It is required that the court should know what is the current progress in the arts affecting the convenience and methods in common use among the people. *Phillips* v. *Detroit*, 111 U. S., 604, 4 Sup. Ct. Rep., 580; *King* v. *Gallum*, 109 U. S., 99, 3 Sup. Ct. Rep., 85; *Terhune* v. *Phillips*, 99 U. S., 592; *Brown* v. *Piper*, 91 U. S., 37. And, because this is so, the court is bound to know what is generally known in this branch of business; that, after the valuable improvement introduced by the Garver patent in the manufacture of spring tooth harrows, the great advantages of this class of implements were generally recognized, and the business of manufacturing harrows with spring teeth was entered upon in various parts of the country, and by many individuals, so that the market was, and has ever since continued to be, filled with these harrows of various patterns, and all pushed upon the public with the pertinacity which has become a recognized incident of all such kinds of business. A few of them contained this feature of the Garver patent of the tooth arching over the frame, but more did not. All, however, included the feature in some form of the springing tooth, which takes the form of an arch in some portion of its conformation, and is constructed of steel to give the desired vibratory motion. And the general use of these different patterns of harrows is in promiscuous distribution throughout the country where such implements are in demand. Some have the same structure of frame as the complainants have adopted; others have applied the spring teeth to frames of other forms. A number of patents have been obtained, other than that of Garver, applicable to different devices in the building of such harrows, some of which the defendants claim to own, and to have used in the manufacture of the harrows now to be accounted for. How can it be said, in the light of all these well known facts, of which notice must be taken,

and which are also shown in the main by the direct evidence in the cases, that the sales which have been made by the defendants, and the profits they have made, are due solely to the value contributed to the harrows by the feature of the arching tooth peculiar to the Garver patent? It seems to me that to say this is to deny the general knowledge and experience. To say that every purchaser would have bought a spring tooth harrow having the peculiarity of the Garver patent, and would have bought no other spring harrow, is impossible, without ignoring what is constantly happening throughout the country."

In *Roemer* v. *Simon*, 31 Fed. Rep., 42, Judge Wheeler said:

"The case shows that there are other kinds of locks for such bags, and they are mere incidents to the bags for their more convenient use. However it might be as to articles wholly covered by a patent for which there was no, or no convenient, substitute, it does not follow in a case like this that a purchaser of the principal thing with a patented incident would go until he should find that particular kind of incident before purchasing. The form, material, or workmanship, of the bag itself, may have been, and is quite likely to have been, as decisive with the purchasers as, and perhaps more so than, the lock."

In *Bell* v. *U. S. Stamping Co.*, 32 Fed. Rep., 551, Judge Wheeler, after finding that the complainants were entitled to certain damages, said:

"They are entitled to more if it is to be presumed that other sales were lost to their licensees and to them from the mere fact that the sales were made by the defendant. Such presumption does not arise without more proof. Damages must be proved, and this does not prove them. *Seymour* v. *McCormick*, 16 How., 480; *New York* v. *Ransom*, 23 How., 487; *Blake* v. *Robertson*, 94 U. S., 728; *Dobson* v. *Hartford Carpet Co.*, 114 U. S., 439, 5 Sup. Ct. Rep., 945; *Dobson* v. *Dornan*, 118 U. S., 10."

In *Covert* v. *Sargent*, 38 Fed. Rep., 238, Judge Wallace said:

> "The difference between the cost price to the patentee and the price he could have realized except for the interference of the infringer represents the profit lost on each sale; but in order to establish the amount of his loss he must show by satisfactory evidence to what extent the competition of the infringer has diverted sales which he would otherwise have made himself. This case seems to have been presented to the master upon the theory that the complainant was entitled to recover against the defendants the profits he would have made if he had sold all the infringing devices which were sold by the defendant. The cases are very rare and exceptional in which it can be presumed, without evidence directly to the point, that the patentee would have sold all the devices which were sold by the infringer. Frequently competition stimulates the demand in the market for a given article, and the zeal and energy of competing dealers are an element which cannot be ignored."

In *Royer* v. *Shultz Belting Co.*, 45 Fed. Rep., 54, Judge Thayer said:

> "It does not follow, nor is it a reasonable inference under the evidence in this case, that plaintiff was damaged to the extent of $2 per hide on each hide treated by the defendant; and it is only actual, as distinguished from speculative, damages, that are recoverable in this action. Such an inference might be justified if it appeared that during the period of infringement plaintiff possessed adequate means and facilities for supplying all the demands of his own and the defendant's customers, and if it appeared that the belting and lace leather manufactured by both parties was produced by substantially the same process, and was of substantially the same quality, and if it had been shown by the testimony of any considerable number of defendant's customers that but for the presence in the market of defendant's product they would have bought from the plaintiff. But there is no testimony of this character in the case. . . . I have no doubt the defendant made sales to a large amount that would not have been made by plaintiff under any

circumstances, and that it had numerous customers who would not have become plaintiff's customers in any event. In view of these facts, the inference that plaintiff's actual loss by reason of the infringement is commensurate with defendant's gains is entirely inadmissible. There is no legal presumption to that effect, and the evidence negatives such an inference."

In *Tatum* v. *Gregory*, 51 Fed. Rep., 447, Judge McKenna said:

> "The device does not form the whole machine, but it is the essential feature; makes the merit of the new one, and the edger has no value or use without it,—is not salable without it. The case of *Yale Lock Manufg. Co.* v. *Sargent*, 117 U. S., 536, 6 Sup. Ct. Rep., 934, applies, and damages must be adjudged on the basis of the entire edger."

Here Judge McKenna finds for the complainant as favorably as the complainant in this case can possibly ask the court to find in its favor as to the merit and value of the Hoyt invention. What further was it necessary for the complainant to establish in its proofs? Judge McKenna says:

> "To enable complainants to recover their rate of profit on respondent's sales involves the two conditions that they had the ability to and would have sold their machine to the purchasers who bought of respondents. The first condition is established; the second, the master said, 'does not so clearly appear.'"

Judge McKenna then proceeds to consider the testimony, and after reviewing it, said:

> "There was no other testimony of lost sales, and no presumption can be safely indulged in against the fact that there were other competitors of complainants besides respondents, other edgers, and other infringers. If the other edgers are conceded to have been inferior, they were cheaper, and the testimony shows were salable, and there are suits pending against other infringers. In this

> condition of things and the evidence it would be incurring too much risk of doing injustice to decide that plaintiffs would have made the sales which respondents made. In other words, that the purchasers from respondents would not have bought of them or another some other edger, or bought the same edger from another infringer, but would have bought of plaintiffs at a higher price."

In *Jennings* v. *Rogers Silver-Plate Co.*, 105 Fed. Rep., 968, Judge Townsend said:

> "The defendant placed the infringing frames on the market at such a low price as to drive complainants' frame out of the market, and to leave itself a very small margin of profit. In these circumstances it is not clear that the complainants would have sold their higher priced frames to the persons who bought the cheaper ones from the defendant."

Robinson on Patents, Vol. 3, Sec. 1063, p. 351, sums up the law on the subject now under consideration, as follows:

> "It cannot be assumed that the plaintiff would have sold all that the defendant sold, or that his percentage of profit would have been the same."

In view of the above decisions, representing the judgment of this court, and of the Circuit Courts all over the country, there can be no recovery on the ground that the complainant has suffered damages to the extent of what its profits would have been if it had sold the drills which the defendants sold, because there can be no presumption that it would have sold such drills. Not only does the law forbid such a presumption, but, under the peculiar circumstances of this case, it is especially inadmissible. The evidence shows that there were a number of other parties selling the infringing drills in competition with the complainant's Dowagiac drills, and a number of parties also selling non-infringing drills in competition with them. Mr. Fowle, in answering X-Q. 7, on page 160 of

the Record, mentions the McSherry, the Cassopolis, the Kentucky, the Richmond Champion, the Buckeye, and the Peoria drills—all infringing drills—that were "sold in the Northwest Territory during the period covered by this accounting, besides those sold by the defendants." In answering X-Q. 24, on page 162, he was asked as to the number of the infringing drills above that were sold, and in reply says, "approximately 20,000, I cannot state definitely at this time." There may have been more than 20,000. Mr. Fowle thinks that there were "approximately" that many. In reply to the next question he says that "of these approximately 20,000, some 2,100, or such a matter, were sold by one of the defendants in this case." As a matter of fact, there were not quite this many when we deduct those that were returned. As we figure the number there were only 2,015, including 261 sold in Canada. There was thus sold by the Minnesota-Moline Company in the Northwest only about one drill in every ten containing the Hoyt invention, not to mention some probably 20,000 to 30,000 sold in competition which did not contain the Hoyt invention, and which were, therefore, *non*-infringing drills.

Not only is there an absence of any presumption that the complainant would have sold Dowagiac drills in place of the infringing drills which the defendants sold, even if they had had the capacity to supply the market, but as a matter of fact we think it clearly appears from the evidence that the complainant did not have such manufacturing capacity, let alone the capacity to have made and sold all of the drills sold by the defendants and all the other infringing parties which Mr. Fowle enumerates as the McSherry, the Cassopolis, the Richmond Champion, the Buckeye, and the Peoria drills, and which he says, not including those sold by the Moline Company defendants, amounted to "approximately 20,000." A capacity to have manufactured and supplied the 2,000 or so drills sold by the Moline defendants would not be sufficient, because that

would not have supplied the market or met the demand, and had it made and sold some 2,000 more drills than it did, there can be no presumption that they would have been *the* 2,000 drills sold by the Moline defendants, when some "approximately 20,000" others containing the Hoyt invention were being pushed and sold on the market in competition. The complainant must have had a capacity to have made and sold "approximately" 22,000 drills more than it did make and sell in the Northwest in order to have supplied the market and filled the demand, and without a showing of such capacity the complainant is certainly in no position to claim or to ask the court to find that it would have sold the particular 2,000 or so which the Moline defendants sold.

In considering the question of the complainant's capacity to have manufactured, shipped and sold drills, in addition to those which it did make, ship and sell, to the extent of all the infringing drills made and sold in the Northwest, we must look at the circumstances touching its location, the supply of labor available, the amount of factory room that it had, and things of that kind, as well as to the particular statements of the testimony. Mr. Fowle claims that the complainant had the capacity to have met the demand. On page 1040 of the Record, was asked as follows:

> "Q. 13. There has been stipulated into the record some statements or remarks of yours as to the obtaining of a double shift of men in Dowagiac, in which you remarked that it was not possible to pick up a double shift of men at Dowagiac, but that you had worked quarter overtime. Please state whether if it was desired to work the shop overtime continuously, you think it would be possible to obtain the necessary men for the extra shift at this point?
>
> "A. I meant on a day's notice or a very short notice. Of course in this or any other town it would be possible to work a double shift of men or secure an almost unlimited number of shop workmen in a reasonable time for preparation."

In X-Q. 14 he was asked if he meant that men could be brought into Dowagiac to supply as large a number as might be needed, and he replied that they would not necessarily have to be brought in, "For additional men to increase the force there is always some available from Dowagiac; some come from farms in this vicinity; some come from other towns: but they would not come were they to know that they were to have only a few days' or a week's work."

This testimony on the part of Mr. Fowle goes merely to the *possibility* of getting a sufficient supply of men with sufficient mechanical skill and ability to enable them to run a double shift of men or to operate their shops continuously. This was the last testimony taken on the accounting and is, therefore, the last word of Mr. Fowle on the subject. It may be assumed to present the matter in the best possible light for the complainant.

Long prior to this, however, and when Mr. Fowle was testifying in the McSherry case in Ohio, as appears from a portion of his cross-examination, stipulated into this case to avoid retaking, and referred to in the question above, he gave a detailed account of the existing capacity of the complainant's works and its possibility for employing additional men. The questions asked Mr. Fowle and his answers are as follows:

"X-Q. 24. Since 1895 has your factory been enlarged by the addition of new shops? If so how frequently and to what extent?

"A. Not to any extent. We have built a shipping room during that time but the factory proper has not been much, if any, enlarged since 1895.

"X-Q. 25. How many men were employed in the factory of the Dowagiac Mfg. Co. in 1895 and how many each year subsequently?

"A. I do not know. My only means for information would be to ask those in charge of that part of the business.

"X-Q. 26. Will you please ascertain and state the facts from the books of your company?

"A. The bookkeeper has supplied me with a memorandum of the men employed in January of each year, being the men employed in the manufacturing plant only. In 1895, 52 men; in 1896, 125; in 1897, 159; in 1898, 183; in 1899, 232; in 1900, 288.

"X-Q. 27. How frequently during this period were your shops run day and night in the manufacture of shoe drills?

"A. We never run all night because in this town it would be impossible to find a competent double shift, but at intervals we have worked the same force of men quarter time over; that is, until 9:30 in the evening. This occurred in 1898 and 1899, and I think in 1900."

Mr. Hoyt, a witness on behalf of the complainant, in answer to cross-question 72, on page 253, gave a statement from their books of the number of men in the employ of the complainant, year by year from 1892 to 1904, and his figures substantially correspond with those given by Mr. Fowle.

The above statements of Mr. Fowle and Mr. Hoyt enable us to judge of the capacity of the complainant's plant. It is plain that without very great enlargement of its manufacturing facilities it could not have possibly supplied the demand which the defendants and other dealers in infringing drills supplied. We need not speculate, however, on the matter. As a matter of fact, there were at least four years, and two of them during the period covered by this accounting, when the complainant was *unable* to supply the demand for its *own* drills, to say nothing of those that were being sold by others. When Mr. Fowle was examined as a witness in this case, on the main issue, before the defendants' drills had been held infringements, as appears on page 45 of the original record offered in evidence on this accounting, he said that "We have generally been able to supply the demand, and, to my knowl-

edge, have always attempted and calculated to do so; but in the years 1891, 1892, and again about the years 1897 and 1898, the demand within ninety days of seeding time, that is, between January 1st and April 1st of those years, so far exceeded the Dowagiac Company's expectations that they were unable to do so." He was then asked:

> "Q. 7. Please indicate about the extent of the demand for drills of the shoe variety which the company was unable to supply, and at about what season you were aware that there would be a shortage.
>
> "A. In 1891 the shortage became apparent early in March; there were indications of unusual demand in February, but the heavy purchases by farmers were mostly in March of that year. In 1892 the buying by farmers was earlier, and I believe the sale of shoe drills in that year far exceeded that of 1891. The Dowagiac company's shortage occurred in February, 1892, and in that month of that year, as general agent for the Northwest, I wrote to each dealer with whom the Dowagiac company had contracts, that we were entirely out of 17-shoe drills and several other different sizes, all that could be manufactured up to April 10th, and if they did not have a full supply, to look elsewhere immediately. In 1897, and 1898, the shortage occurred in March; in the latter year I believe the unusual demand for shoe drills was caused by the peculiar season, either wholly or in part."

It thus appears that in the years 1897 and 1898—years included in this accounting—to say nothing of the other two years, the complainant was *unable* to supply its *own* customers with its Dowagiac shoe drills, let alone supplying the customers of others. For these two years it was, as a matter of fact, and by the admissions of its sales manager, deficient in *ability* to supply the demand. How can it now ask the court to assume that it might have supplied the demand and also made the sales which the defendants made, to say nothing of the sales by others, when it was unable to supply its own customers? This brings us then to a proposition of mixed law and fact that may be thus expressed:

The capacity to supply the demand for a patented machine, required as a condition to the recovery by a patentee of damages equalling his profits on lost sales, must be a real, present, existing capacity, in esse, at and "during the period of infringement," and must consist in "adequate means and facilities for supplying all the demands of his own and the defendant's customers," and not be merely a germinal, undeveloped, potential ability to do so, by borrowing money, enlarging the works, increasing the working force, and changing business methods, beyond the extent that customary and accepted business principles in the particular trade or industry in question would warrant and justify. The burden of showing these things is on the complainant. The established facts show that during the period of the defendant's infringement, the complainant in this case, in the years 1897 and 1898, failed to manufacture enough drills to supply its own customers, that the largest number of men employed by the complainant at any one time during the years of the infringement were for 1896 125 men, for 1897 159 men, for 1898 183 men, for 1899 232 men, and for 1900 288 men; and that the evidence shows that this force of men was wholly inadequate to manufacture enough drills to supply the demands for the complainant's drills, to say nothing of infringing drills, but fails to show how many men would be required so to do, how much the works would need to be enlarged, how much capital would be required therefor, how much capital or credit the complainant commanded, how long a time would be required, etc. Without a showing as above it cannot be held that the complainant "possessed adequate means and facilities for supplying all the demands of his own and the defendant's customers," but the contrary.

As said above, it is not a *potential* ability to supply the trade that we have to consider. That might be true of almost any manufacturing concern. It might even be true of a pat-

entee who was not running a manufacturing concern of any kind if he had large capital or credit. The courts have reference to an *existing* capacity to supply the trade, not to a potential one. The question is, did the complainant actually have the capacity to have supplied the full demands of the trade, and was it prevented from enjoying the benefits of that capacity by the acts of the defendants? As said by Judge Thayer, in the *Royer-Schultz* case, it must be shown "that *during the period of infringement* the plaintiff *possessed adequate* means and facilities for supplying all the demands of his own and the defendants' customers," and as said by Judge McKenna in the *Tatum-Gregory* case, the complainant must show that it "*had* the ability to and *would* have sold their machines to the purchasers who bought of respondents." As soon as we disregard the ability of the complainant to have supplied the demand, as such ability *existed* during the period of the infringement, and begin to consider whether it *might* have enlarged its plant, might have increased its working force, or might have done this thing or that, we enter the realm of inference, conjecture and speculation condemned by the courts.

The contention of the complainant that it would have sold the drills sold by the defendants, had it not been for the infringement, rests upon the prior contention that the purchasers of the defendants' infringing drills bought them *because* they contained the Hoyt invention, and that had they not been able to get the defendants' drills containing such invention they would have bought from the complainant. We have already seen from the numerous decisions from which we have quoted that no such inference or presumption is permissible. We might have rested on this presumption, but preferred to affirmatively show in the defendants' testimony that the purchasers of the defendants' infringing drills were not

moved to make such purchases by reason of the presence of the Hoyt invention in them, and that their sales to the ultimate users were not effected for such reason, nor depended upon the presence of such invention. We will refer at this point to the testimony to see what it was that influenced the defendants, their customers and others to buy and enabled them to sell drills—infringing and otherwise.

There are several sources of light and information illuminating this inquiry. The testimony of the dealers who bought the rod spring pressure drills from the defendants and sold them to the farmers; the testimony of dealers in other infringing drills; the testimony of dealers in the Dowagiac drills themselves; the statements and representations of the complainant in its advertising catalogues to induce purchases; the testimony as to the salability and popularity of non-infringing coil spring pressure drills that many preferred; the testimony of the parties negotiating and executing the contracts, including the correspondence and the statements and representations of the advertising matter furnished to and sent out by the defendants; and finally the wording of the contracts themselves—all are pertinent and persuasive on the question as to what would have happened had the defendants not sold infringing drills.

The first source of information is the testimony of the dealers who bought the infringing drills from the Moline company defendants. The consensus and sum of their testimony shows that,

The defendants' infringing drills were bought because the purchasers were handling other lines of the defendants' goods and they preferred to deal with them, because they liked the shoe, the feed, the frame and the wheels, the chain drive on

the feed, because it was a nicely gotten up drill, wasn't a heavy drill, was a neat structure, was light of draft, was a good put up drill, had good solid wide wheels, because the defendants were well represented, stood by their guarantee, because the drill had a good four-horse equalizer, because its appearance was good, etc., as stated by the several witnesses—and not because of the particular kind of spring pressure device which it had.

Altogether there were about two hundred dealers to whom the Moline defendants sold the 2,015 drills during the infringing period. We called and examined twenty-five of these dealers on the accounting. The sales that had been made through them amounted to over 560 drills. We will take up the testimony of these dealers who bought the McSherry drills from the Moline defendants and see what induced them to buy and deal in these drills. We will find a number of reasons, as detailed above, that had weight with them, aside from the spring pressure device. Indeed, some of them *did not know what kind* of a spring pressure device the McSherry drills which they were buying had. Many of them bought the infringing drills from the Minnesota Moline Plow Company because they bought their wagons, plows, buggies, harrows, cultivators and other lines of agricultural implements from them, and preferred to deal with one house, so that if they wanted to buy only part of a carload of drills they could put them in the car with other implements they were buying, and so get the benefit of carload rates. Others bought McSherry drills from the Minnesota Moline Plow Company because it had an established reputation, was known throughout the country, was considered financially solid and was able to back its guarantees and make them good. These and other considerations, more than the kind of spring pressure device which the drills had, enabled the defendants to market the

infringing drills. This will be apparent when we come to examine the testimony of the dealers in detail.

Nelson Lundgren, of Atwater, Minnesota, bought two McSherry drills from the Minnesota Moline Plow Company. On page 617 of the Record we asked him:

> "Q. 9. What caused you to buy these McSherry drills from the Minnesota Moline Plow Company?
>
> "A. I handled the other line of their implements, and so I got them in the car. I bought them and they come in the car.
>
> "Q. 12. What particular features or characteristics of the drill caused you to buy them, if you can specify them?
>
> "A. They didn't state any kind or any special feature about them. When I bought the other line I bought them on that account. The other goods was good, and that is what I bought them for.
>
> "Q. 13. Did you buy them specially because they had the rod spring pressure device?
>
> "A. No, sir, I was not acquainted with that and took no notice of it."

At the time the witness Lundgren bought the McSherry drills he knew nothing about the Dowagiac drills, but afterward he bought and handled the Dowagiac drills for two years. In X-Q. 33, p. 621, he was asked when he first learned about the Dowagiac drills and he states that he knew nothing about them until the agent came around and gave him a chance to sell them on commission. Not only did he not buy the McSherry drills because they contained a spring pressure device like the Dowagiac, but at that time he knew nothing about the Dowagiac drills.

True W. Childs, of Mellette, South Dakota, bought some twenty-one McSherry shoe drills from the defendants. On page 624 of the Record we asked him:

"Q. 8. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, I liked the shoe. It was a short shoe, and they had a good feed, a good frame and a good wheel.

"Q. 9. Did you buy them particularly because of the spring pressure device?

"A. No, sir."

"X-Q. 49. Who ever visited you and induced you to purchase the McSherry shoe drills?

"A. I don't think there was any one.

"X-Q. 50. What induced you to purchase them?

"A. Well, they had a good shoe, and a good feed, and a good frame; a good solid frame, a good wheel and a short shoe.

"X-Q. 51. Did you pay any attention to the spring pressure device on it?

"A. No."

Knute O. Lee, Aberdeen, South Dakota, bought some 48 McSherry drills from the defendants. On page 632 of the Record we asked him:

"Q. 9. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, I handled their complete line, and got some of their drills in addition to the other drills that I was handling, principally the Van Brunt."

"Q. 13. Was it the presence of the rod spring pressure device that caused you to buy the McSherry drills?

"A. No.

"Q. 15. What particular features would you call the attention of the farmers to in order to sell McSherry drills?

"A. Well, one good feature about the McSherry drill was the chain drive on the feed; didn't have a gearing drive feed, and then they had a fine feed, and it was a nicely gotten up drill, and it wasn't a very heavy drill. It was a rather neat structure machine, and they had a fine shoe, short; it would not—that is, just the point of the shoe would go into the ground.

"Q. 16. You mean the heel of it?

"A. The heel, yes."

On cross-examination the witness Lee was asked about the sale of drills to farmers and the attention that they gave to the different features, and on page 638 he was asked:

"X-Q. 43. You don't remember much about the consideration they gave to the spring pressure device on shoe drills, do you?

"A. They don't seem to—it don't seem to make any difference. It seems as though coil spring drills there have had the lead at Aberdeen. . . ."

Andrew J. Ekander, of Wilmar, Minnesota, bought some 24 McSherry shoe drills of the defendants, through one of their traveling agents. On page 640 we asked him:

"Q. 11. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Because it was a good put up drill, a good frame, good wheels on it.

"Q. 12. Do you remember what kind of a spring pressure device it had for pressing the shoes to the ground?

"A. Yes.

"Q. 13. Did you buy the McSherry shoe drill because of the peculiar kind of spring pressure device that it had?

"A. No, I did not. There was drills that had just as good pressure as they had.

"Q. 14. What points would you make in talking with the farmers to sell them a McSherry shoe drill?

"A. The point I spoke about was in the wheels; it had good, solid, wide wheels, and a good frame, put up good."

Lauritz C. Peterson, of Tyler, Minnesota, bought, or rather his firm bought, some 40 McSherry shoe drills from the defendants. On page 644 we asked him:

"Q. 11. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

"A. We started with it on account I couldn't get really what I wanted at the time, because the other party had the drill I really preferred to handle, and I bought all the rest of my goods, plow goods, and wagons and buggies from the Moline Plow Company, and therefore I con-

cluded to buy my drills from them, as long as I thought I had dealt with a good party and they would stand by me if the drill wasn't good."

"Q. 14. Did you buy the McSherry drills because they had that particular kind of spring pressure device?

"A. No, sir.

"Q. 15. What point would you talk in trying to sell McSherry drills to the farmers?

"A. I would talk all the points there was on the machine; talk every bolt, if I had a chance."

Lars P. Larson, of Evan, Minnesota, bought some 30 McSherry shoe drills from the defendants. On page 650 we asked him:

"Q. 15. Please state, Mr. Larson, what caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company.

"A. Well, on account of the firm. I had previously handled their plows on my own accord, previous to that time, and that was the only machinery firm I was acquainted with, and they were well represented there in the vicinity, and their guarantee of all the goods was principally the cause."

"Q. 17. Did you buy them because of that peculiar or particular spring pressure device?

"A. No, sir."

John A. Hanson, of Ivanhoe, Minnesota, bought some 30 McSherry shoe drills from the defendants. On page 652 we asked him:

"Q. 7. What particular feature of the McSherry shoe drills caused you to buy them from the Minnesota Moline Plow Company, if you can tell us.

"A. I don't know as there was any particular features that caused us to buy them.

"Q. 8. That is, any one particular feature?

"A. No, I don't know as there was any one, or any particular feature that caused us to buy the drill."

"Q. 10. What particular points would you call attention to in trying to make sales?

"A. Well, I don't know as there was any very particular point, or any great point, that you would call attention to. The frame on the drill I generally called attention to. It was a very good frame, and the wheels, and they had a very good four horse equalizer, and a nice light drill in appearance. The general appearance of it was good, I thought.

"Q. 11. In making sales to farmers did you lay special emphasis on the particular kind of spring pressure device?

"A. No, sir."

James G. Rathbun, of Webster, South Dakota, bought some 8 McSherry shoe drills from the defendants. On page 657 we asked him:

"Q. 9. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Why, there have been a great many of their seeders sold where I live, and they always had a good reputation; that is, their seeders, and I was buying goods of the Moline Plow Company, and bought my drills there of them, so as to get them shipped in at the same time, with less freight."

"Q. 13. Did you buy these McSherry drills because they had this particular kind of a spring pressure device?

"A. I did not."

"Q. 15. What particular points would you call the farmers' attention to in making sales of these McSherry drills?

"A. Why, the chain feed on them was the principal thing. They were a well put up drill, well made.

"Q. 16. Good appearing drills?

"A. Yes, sir."

Robert Fritsche, of Lamberton, Minnesota, bought some 45 McSherry drills from the defendants. On page 661 we asked him:

"Q. 11. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Why?

"Q. 12. Yes, what caused you to buy them?

"A. We handled their line.

"Q. 13. Was there any one particular feature or thing about them that caused you to buy them?

"A. No, sir."

"Q. 15. Did you buy them because of this particular rod pressure device?

"A. No, sir.

"Q. 16. Did you yourself sell McSherry drills to the farmers?

"A. I did.

"Q. 17. What particular features would you call their attention to in making a sale?

"A. Their light drive, pulley hitch, and also about the feed, the chain."

Charles Aldrich, of Henry, South Dakota, bought some 20 McSherry shoe drills from the defendants. On page 665 we asked him:

"Q. 7. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, they had a very good representative there, and like a good many new beginners, I bought about the first thing that presented itself.

"Q. 8. Do you remember the spring pressure device that was on the McSherry drills?

"A. I didn't at that time.

"Q. 9. You mean at the time you first arranged to deal in them you didn't know what kind of spring pressure it had?

"A. Never saw the drills.

"Q. 10. Did you sell the drills yourself to the farmers?

"A. I did.

"Q. 11. What talking points would you use in trying to effect sales?

"A. Oh, I just explained the build of the machine, the reputation the company had for other lines of goods, guaranteed the drill, and sold it on its merits.

"Q. 12. That is, the reputation of the Minnesota Moline Plow Company?

"A. Yes.

"Q. 13. Did you buy these McSherry drills, or sell them, because of the particular spring pressure device that they had on them?

"A. I did not."

Henry Romberg, of Sleepy Eye, Minnesota, bought some 15 McSherry shoe drills from the defendants. On page 669 we asked him:

"Q. 11. What caused your company or association to buy the McSherry drills from the Minnesota Moline Plow Company?

"A. Because we bought all our other machinery there, and we bought drills there.

"Q. 12. Do you remember the kind of spring pressure device that these McSherry drills had?

"A. No.

"Q. 13. Did your association buy the drills because of any particular spring pressure device that they had?

"A. No, sir."

Hubert G. Hilliesheim, of Stark, Minnesota, bought some 15 McSherry shoe drills from the defendants. On page 673 we asked him:

"Q. 11. What caused your association to buy shoe drills from the Minnesota Moline Plow Company?

"A. Because we bought all our other goods from them and we didn't want to deal with so many companies."

"Q. 15. Did the particular kind of spring pressure device that was on them cause your association to buy these McSherry drills from the Minnesota Moline Plow Company?

"A. No, sir."

Fred Tiedt, of Argyle, Minnesota, bought some 10 McSherry shoe drills from the defendants. On page 677 we asked him:

"Q. 14. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Buying part of my other implements from them. I didn't handle any other drill for a number of years, and bought them merely because they handled them at that time, I suppose. Their salesman had them for sale and offered them, and we put in a line of them. They were the first line I had put in for a number of years previous to that time.

"Q. 15. At that time were you handling the Minnesota Moline Plow Company's goods generally?

"A. Yes, sir."

"Q. 17. Did you buy the McSherry shoe drills because of that particular kind of spring pressure device?

"A. No, sir.

"Q. 18. Or what was the fact?

"A. I bought them principally because they handled them, and the first I bought, I bought them to help fill out he car at that time, as I wanted to handle a drill, and that was the drill that they handled. I don't think at that time I investigated any other drills particularly. That is my recollection of it now.

"Q. 19. What if any particular attention did you pay to the spring pressure device for the shoes?

"A. To be real candid I didn't pay any attention to the spring at all."

"Q. 21. You may state if you knew the kind of spring pressure device that the Dowagiac shoe drills were equipped with at the time you began to handle the McSherry shoe drill.

"A. No, sir, I did not at that time; not at the beginning.

"X-Q. 12. And when did you first learn of the Dowagiac shoe drill which has the parallel rod spring pressure on the shoe?

"A. I couldn't say exactly as to the year. Some time after I handled the McSherry drills. I never paid enough attention to it to notice it."

"X-Q. 37. In selling the McSherry shoe drill, did you ever refer to the spring pressure device?

"A. No, sir, I did not."

"X-Q. 39. Didn't you frequently remark that it had the same spring pressure as the Dowagiac?

"A. No sir. I didn't discover it until about two years that it did have the same. I didn't pay much attention to the spring."

John B. MacKinnon, of Crookston, Minnesota, bought some 20 McSherry shoe drills from the defendants. On page 684 we asked him:

"Q. 13. What caused you to buy the McSherry shoe drill from the Minnesota Moline Plow Company?

"A. Well, they were cheaper; lower priced than any other drill that I knew of at the time.

"Q. 14. Do you remember what kind of a spring pressure device there was on those drills to press the shoes to the ground?

"A. Well, I do not. I don't remember that.

"Q. 15. Did you buy the drills because of any special spring pressure device that they had?

"A. No, I didn't."

"Q. 17. What talking points did you have in making sales to the farmers; what particular features, if any, did you call attention to?

"A. Well, it is some time since I sold those drills. It is pretty hard to remember just every point. I don't remember any particular, special point, any more than their general qualities, as I would pick out some things about them. I don't remember distinctly any particular thing."

"X-Q. 13. When you came to sell the McSherry shoe drill I suppose it was sufficient to mention that it had a spring like the Dowagiac, wasn't it?

"A. I don't know that. At that time I don't think that was taken into account much. At that time the pressure on all of them was so universal, at least almost all drills used some kind of spring pressure, that I don't remember laying any particular stress on the spring."

John J. Mahoney, of Langdon, North Dakota, bought some 80 McSherry shoe drills from the defendants. And on page 690 we asked him:

"Q. 13. What caused your company to buy the McSherry shoe drills from the Minnesota Moline Plow Company, if you remember?

"A. Yes, sir. We were starting business and I was president and manager of the company, and went to Minneapolis to buy goods, and wanted to do business with the Moline Plow Company.

"Q. 14. Did you handle other goods of the Minnesota Moline Plow Company?

"A. Yes, sir, handled their full line of goods, implements."

"Q. 16. Please state whether you bought McSherry shoe drills because of any particular spring pressure device that they were equipped with?

"A. No, sir. No, we didn't."

"Q. 18. What particular points, if any, would you talk to the farmers in effecting or making sales?

"A. Well, I suppose that there would not be a part but what I would talk of. I suppose I talked all parts of the machine.

"Q. 19. Any one point more than the others?

"A. No, sir, not without the farmer had reference to a point, and that would be very seldom."

"Q. 22. Did you dwell upon the kind of spring pressure device specially in order to make sales?

"A. No, sir."

Robert J. Honeyford, of Bisbee, North Dakota, bought some 30 McSherry shoe drills from the defendants. And on page 697 we asked him:

"Q. 13. What caused you to buy your McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, I guess it was just because they were handling them. When we started in there our capital was pretty small, and we didn't feel that we were able to divide up our trade; so we just bought right straight along from them; staid right with that company, and they have always used us right, and just staid right with them."

"Q. 16. Did you buy your McSherry shoe drills because of any particular spring pressure device that they had?

"A. No, sir. It was simply because I guess the Moline people were handling them."

John Hillsteadt, of Fosston, Minnesota, bought some 8 McSherry shoe drills. On page 703 we asked him:

"Q. 10. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. We bought them because we wanted to fill up a car with them.

"Q. 11. Was there any special feature about them that caused you to buy them?

"A. No, sir."

"Q. 13. Please state what the fact may be as to whether you bought them because of their being equipped with any particular kind of spring pressure device for holding the shoes to the ground.

"A. No, we did not buy them for that reason. We bought them just to fill up a car. We had some drills on hand before, but we didn't have quite enough to last out the season; we thought we could dispose of some more and we took a few McSherry drills in with the other goods.

"Q. 14. What other kind of shoe drills did you sell besides the McSherry?

"A. We sold the Van Brunt."

"X-Q. 2. In selling the McSherry drill what would be the first thing you would do in showing it to the farmer?

"A. Oh, first offer them the drill of course for sale; tell them it was a little cheaper drill than the Van Brunt, and that was about all. There was no particular point about them to talk about much."

"X-Q. 8. Ever refer to the spring pressure on the McSherry in selling it?

"A. We did do that too, but the farmers up there didn't take well on that kind of pressure, because it had a neck bearing on the horses, and for that reason they were hard to sell in our locality, and we had them on hand for years before we could dispose of them too. So the Van Brunt was an easier drill to sell on account of the pressing; it didn't bear on the horses' necks."

John Munro, of Rolla, North Dakota, bought some 50 McSherry shoe drills from the defendants. On page 708 we asked him:

"Q. 12. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, they were a little cheaper than the general run of drills, and we was buying our other goods from them, and in order to get carload rates we put them in."

"Q. 14. Please state what the fact may be as to whether or not you bought the McSherry shoe drills from the Minnesota Moline Plow Company because of any particular kind of spring pressure device that they had.

"A. The first drills that I had from them—the fact is I don't know as I paid any attention what kind of spring pressure was on them, but after I got them up there I seen they were something similar to the Dowagiac."

"Q. 17. What talking points did you use in making sales of these McSherry shoe drills to the farmers?

"A. Well, I always had a drill set up there and showed it to them; I generally had a certain class of farmers that done all their dealings with me, and if they wanted a drill they come in and bought it."

M. R. O'Neill, of Graceville, Minnesota, bought some 25 McSherry shoe drills from the defendants. On page 713 we asked him:

"Q. 12. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Purely and simply on the reputation of the Moline Plow Company, and their guarantee and recommendation.

"Q. 13. Do you remember the kind of spring pressure device that was on the McSherry drills?

"A. No, sir; I don't believe I could go into detail at the present time and explain it.

"Q. 14. Please state what the fact may be as to whether you bought the McSherry drills because of any particular kind of spring pressure device for holding the shoes to the ground.

"A. No, sir; it was my first experience in the shoe drill business, and I really didn't know but very little about drills one way or the other, and I bought the drills, as I said before, entirely on the guarantee and representation made by the Moline Plow Company. I didn't ask a question whether they were spiral springs, or flat springs. The man said, 'we guarantee this drill equal to anything on the market,' and I bought the drill on those recommendations."

"Q. 23. What talking points would you use in trying to sell McSherry drills?

"A. Why, I don't remember the particular talking points that we used now. I took my cue somewhat of course from the man that sold me the drills; guaranteed the drills to be equal to anything there was on the market; guaranteed it to do the work."

"Q. 25. Any special stress on the kind of spring pressure for the shoes?

"A. No, sir."

L. O. Larson, of Courtney, North Dakota, bought some 15 McSherry drills from the defendants. On page 719 we asked him:

"Q. 13. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, my partner bought those that were sold in Kensal, and those two in Courtney, and the last purchase I bought them myself; that is, the winter of 1902. Mr. Blenkhorn came down to the house, and we worked part of the night making out orders; I bought three carloads of goods."

"Q. 15. Do you remember the kind of spring pressure device that was on these McSherry shoe drills?

"A. Well, I didn't pay much attention to it, for the reason that we never sold the drills, only just two that was sold the year before. I think I sold them to a Russian; he came in and wanted two drills, and he couldn't talk; I wrote down the prices on a piece of paper and showed him, and we sold the McSherry $10 less than we did the Van Brunt."

"Q. 19. Did you buy the McSherry shoe drills from the Minnesota Moline Plow Company because of any particular spring pressure device they had?

"A. No, I don't think we discussed that."

D. G. McIntosh, of St. Thomas, North Dakota, bought some 5 McSherry shoe drills from the defendants. On page 724 we asked him:

"Q. 10. What caused you to buy McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, because the Minnesota Moline Plow Company were handling them, to make up weight in a car.

"Q. 11. That is, to make a full carload?

"A. Yes.

"Q. 12. And get carload rates, I suppose?

"A. Yes, that is right."

"Q. 14. I will ask you to state what the fact may be as to whether or not you bought these McSherry shoe drills because of any particular kind of spring pressure device which they had for holding the shoes to the ground?

"A. I did not."

"Q. 16. What particular points, if any, would you call the attention of the farmers to in making sales?

"A. The fact that I had them on hand and wanted to get rid of them, was about the only thing. I would get a customer that wanted them and I sold them; told them they would do the business, and they did.

"Q. 17. Did you lay any particular stress upon one point or another?

"A. I don't think so.

"Q. 18. Any particular stress on the shoe pressure; spring pressure?

"A. No, I don't think so."

"X-Q. 18. When you noticed the McSherry shoe drill had a pair of rods for spring pressure on the shoes, you were satisfied that the spring pressure was all right, wasn't you?

"A. I never saw the McSherry until I got them in; in the car.

"X-Q. 19. I say when you saw that, you knew that the spring pressure was all right, didn't you?

"A. I don't know that I ever gave it any particular thought, as to the spring pressure; the construction of it, being able to stand up, was about the only feature ever taken into consideration."

"R-D. Q. 1. At the time you bought the five McSherry shoe drills from the Minnesota Moline Plow Company, did you know what kind of spring pressure device they had for the shoes?

"A. I don't think so."

R. H. Stull, of Cavalier, North Dakota, bought some 4 Mc-

Sherry shoe drills from the defendants. On page 732 we asked him:

"Q. 11. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Why, we bought out Thompson and he had given an order to the Moline Plow Company, and McMurray Bros. were starting in, and they wanted the same line, so that we saw Blenkhorn when he came up, and he told us if we would adopt the order that Thompson had already given that he would give us the line of goods, and these four drills was in the order, and we took the order just as Thompson had given it.

"Q. 12. Did you know what kind of a spring pressure device these McSherry shoe drills had at the time you bought them?

"A. No, sir."

"Q. 15. What kind of talk would you make in order to sell these McSherry shoe drills to the farmers?

"A. Well, just the general principles of the drill.

"Q. 16. You may state whether or not you laid stress upon any particular feature?

"A. No, sir."

Charles V. Brown, of Cathay, North Dakota, bought some 9 McSherry shoe drills from the Minnesota Moline Plow Company. On page 737 we asked him:

"Q. 12. What caused you to buy these McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, I bought practically everything that I handled from them. It was handier and better."

"Q. 14. Please state what particular feature, if any, caused you to buy these McSherry shoe drills?

"A. Nothing particular. They said they would do the work."

"Q. 18. Did you yourself personally sell any McSherry shoe drills to the farmers?

"A. I have; yes, sir.

"Q. 19. What particular points, if any, would you call their attention to when selling McSherry shoe drills?

"A. That they were good, solidly built drills, guaranteed to work.

"Q. 20. You may state what the fact may be as to whether you laid any particular stress upon the kind of spring pressure device that they had for the shoes.

"A. I don't remember that I ever did."

John A. Wilson, of Cavalier, North Dakota, bought some 4 McSherry shoe drills from the defendants. On page 742 we asked him:

"Q. 10. What caused your firm to buy the McSherry shoe drills from the Minnesota Moline Plow Company, if you remember?

"A. Well, they were somewhat cheaper than the other make of drills we were handling, and we were doing business with them, and we bought some to fill in the car and make a carload.

"Q. 11. To fill out the car?

"A. Yes, to fill out a car."

"Q. 14. Please state what the fact may be as to whether or not you bought these McSherry shoe drills because of any particular spring pressure device for the shoes that they had.

"A. No, sir, we did not."

Ralph B. Welch, of Minto, North Dakota, bought some 10 McSherry shoe drills from the defendants. On page 745 we asked him:

"Q. 10. What caused you to buy the McSherry shoe drills from the Minnesota Moline Plow Company?

"A. Well, we had bought our drills, the Van Brunts, and was afraid we was going to run short, and was filling a car down there, and so we took them rather than to pay local freight on the Van Brunts."

"Q. 12. Did you know at the time you bought these McSherry shoe drills what the particular kind of spring pressure device was that they had for the shoes?

"A. No, I never saw one."

"Q. 15. What particular talking points would you make in order to sell McSherry shoe drills, if any?

"A. Well, not any in particular, more than the guar-

antee that the company gave us. I never saw them before; never saw them work; didn't know anything about them.

"Q. 16. You may state whether you laid any particular stress upon the spring pressure for the shoes, or other features.

"A. No, sir."

The above testimony presents the reasons which induced these twenty-five dealers to buy McSherry shoe drills. In number they represent about one-eighth of the customers of the Minnesota Moline Plow Company who bought McSherry shoe drills, while the 560 odd drills that they bought represent more than one-fourth of the total number of infringing drills sold by the defendants. These witnesses were financially disinterested. Many of them handled other kinds of shoe drills, like the Van Brunt and others, while they were handling McSherry drills, and many of them had handled other kinds of drills subsequently. The testimony of every one of them is that he was not caused or induced to buy the McSherry drills because they contained the particular spring pressure device constituting the Hoyt invention. No testimony contradictory of these witnesses has been taken in rebuttal. Their testimony stands unquestioned and unshaken. The reasons which caused them to buy and which enabled them to sell the McSherry shoe drills were considerations not touching the Hoyt invention. Many of them did not know what kind of a spring pressure device the drills were equipped with. Many of them relied entirely upon the reputation and responsibility of the Minnesota Moline Plow Company, that they knew would stand back of any goods they sold. Many of them bought to fill carload lots with other implements and get the benefit of reduced freights. All sorts of considerations entered into the determination of the matter. It certainly cannot be said that the sale of this more than one-fourth of the drills sold, is to be attributed solely, *or at all,* to the presence of the Hoyt inven-

tion. The number of dealers examined and the number of drills which they handled were sufficient to raise a presumption that other dealers were influenced by similar considerations. The testimony of these certainly prevents any presumption that the other dealers were influenced in purchasing McSherry drills by the presence of the Hoyt invention. These witnesses serve as a sample, and a large sample, of the whole, and, in the absence of contrary testimony, the whole is to be judged by them. We submit that the testimony of these twenty-five dealers establishes the fact beyond doubt or question that the defendants were not enabled to sell McSherry shoe drills because they were equipped with the Hoyt style of spring pressure device.

The next source of information on the question as to whether the presence of the Hoyt invention sold the drills is to be found in the testimony of dealers who sold *other* shoe drills *than* the McSherry which contained the Hoyt invention. Many drills made by other manufacturers and called by other names, as for instance the "Kentucky" drill, or the "Peoria" drill, contained the spring pressure device of the Hoyt patent. If the Hoyt invention was the inducing cause for the sale of the Dawagiac drills, it would presumably be the inducing cause for the sale of *all* drills containing it. The parties that handled *other* infringing drills are, therefore, competent to give testimony as to the potential influence of the presence of the Hoyt invention as an inducement in the purchase and sale of the drills. An examination of their testimony will show that:

The purchasers of the infringing Kentucky drills bought them from the Deere & Webber Company because they wanted a contract to handle their entire line of goods, because they liked the detachable heel feature, because the drill was sold by the Deere & Webber Company, because it had

was selling the drill on, the detachable heel and the mere fact that the drills were sold by the Deere & Webber Company."

Leslie Stinson, of Grand Forks, North Dakota, who sold the Kentucky infringing drills, was informed on page 444 of the Record that Mr. Swayne had referred to him as one of the competitors of the Dowagiac company who handled the Kentucky drill because of its imitation of the Dowagiac and its cheapness in price, and was then asked:

"Q. 3. What is the true statement of the case?

"A. The first reason, because it was in Deere & Webber's line of goods, was the first reason why I handled it. That is, I wanted the Deere & Webber line of goods, and that line included the drill.

"Q. 4. Did the spring pressure device cut any figure in the matter with you?

"A. Not at all."

"Q. 7. What were the talking points?

"A. Steel frame, detachable heel, chain drive, general construction, general appearance of the drill."

James S. Brosnahan, of Langdon, North Dakota, who had sold the Kentucky infringing drill, was asked on page 459 of the Record:

"Q. 20. What has been the talking point?

"A. On the Kentucky shoe drill the principal talking point that I talked was the detachable heel and the strength of the steel frame, solid square frame, and the rigidity of the hopper or box that the seed grain is in. Also about that time what is known as the chain feed came into use; that was quite a strong talking point. Also the adjustable washer on the feed shank.

"Q. 21. Do you remember as to the traveling men who represented the Kentucky drill, whether they carried a spring pressure device, or some other part of the drill?

"A. I never seen the spring pressure part of it. I have seen this detachable heel shoe; they used to carry that in a box and show that.

a strong, solid, square steel frame, because of the rigidity of the seed hopper or box, because it had a chain feed, because it had an adjustable washer on the feed shank, because of the general appearance of the drill, the finish, the all steel frame construction, the hinged axle boxes, the adjustable pulley hitch, the notched washers on the feed shanks to take up wear, the drive located under the hopper instead of at the ends, and because Deere & Webber requested it, etc., as stated by the several witnesses—and not merely because it had the Hoyt spring pressure device.

William J. Westergaard, of Valley City, North Dakota, who sold the Kentucky infringing drills, was asked, on page 435 of the Record:

"Q. 5. In the matter of handling these drills, state whether or not you considered the form of the spring pressure or the construction of that part of the machine.

"A. I did not.

"Q. 6. Who was back of that machine, if any one?

"A. The Deere & Webber Co.

"Q. 7. Did you at that time handle their entire line of goods, or did you expect to handle them?

"A. I didn't, at the time I made contract for the drill, handle the entire line of goods. I bought the first drill from them on condition that whenever they made a change in the agency I was to have the first show at it.

"Q. 8. What was shown you by the agent of Deere & Webber Company as to the construction of their shoe drill at the time you negotiated?

"A. All he had at that time was a little small square box with a case, with a portion off this shoe, part of the shank used for showing the detachable heel feature; that was all he had at the time.

"Q. 9. Did he talk about the spring pressure device or show you the construction of that part at that time?

"A. He did not."

"Q. 17. In the sale or the handling of the Kentucky drills, shoe drills, was there any advantage in the detachable heel feature with the trade?

"A. Yes, sir, that was the principal feature which I

"Q. 22. Was that shown you when you took up the drill and decided to handle the drill?

"A. Yes, sir, we always kept a sample also in the store."

Ellef Ellis, of Hallock, Minnesota, who sold infringing Kentucky drills, was asked on page 475 of the Record:

"X-Q. 50. What induced you while you was handling the Van Brunt shoe drills to take up the Kentucky shoe drill in the year 1896, or when you first took it up?

"A. One reason was because it was handled by Deere & Webber Company; we bought all our stuff from Deere & Webber Company, and took their drills for that reason and the drill has also other special features for which we took it.

"X-Q. 51. What were the other special features that led you to take the Kentucky?

"A. One thing was the general appearance of the drill, the finish, nice finish, an all steel frame construction, hinged axle boxes and adjustable pulley hitch, notched washers on the feed shanks to take up the wear, chain drive, drive located under the hopper instead of the ends; other features which I can't remember now.

"X-Q. 52. Anything about the shoe or the spring?

"A. There was nothing particular about the shoe when it first came out, until 1898, when the detachable heel came out; that was another feature."

Lee B. Hibbard, of Bordelac, North Dakota, who had been superintendent on the Keystone Farm which used twenty-one drills, and on the Jones Farm which used twelve drills, and on a farm where he was then using twenty-seven or twenty-eight drils, and who had changed from the Buckeye to the Kentucky, was asked on page 482 of the Record:

"X-Q. 29. What considerations led to the adoption of the Kentucky rather than the continued use of the Buckeye drill?

"A. There would be numerous reasons. The Buckeye drills were old-fashioned drills, in a way, outclassed. For one thing, the shoe was made like a sleigh shoe; instead

of striking the ground with the heel it would drag more like a sleigh shoe."

Gudbrand L. Elkin, of Mayville, North Dakota, who had handled the Kentucky infringing drill, stated on page 488 of the Record that they handled it "On account of the general construction of the drill, not because it was the same as the Dowagiac," and was then asked:

"Q. 6. What were the features about the drill, the Kentucky drill, that you have in mind?

"A. It was the general construction of the drill and the appearance of it. Among the features that we considered better was the construction of the hopper on the feed, and the frame of the drill was the main question."

"Q. 9. What is the fact as to when your large sales on the Kentucky began with reference to the time of their using the detachable heel feature?

"A. I couldn't say positive which year we sold the most, but after the detachable heel was used our trade increased on them because it was one of the good talking points on the drills, and for saving in sharpening was used as a selling feature.

"Q. 10. Referring to the spring pressure device, from your experience does it cut much figure what kind of a spring pressure device is used, whether coil spring or flat spring?

"A. No, sir, I don't believe so."

Thomas J. Smith, of Grand Forks, North Dakota, who had sold the Kentucky infringing drill, was asked on page 506 of the Record:

"Q. 18. From your experience what figure does the pressure device cut in the sale of a drill?

"A. The spring cuts very little figure on the drill in my estimation."

"X-Q. 52. How did you come to take up the Kentucky when you had the Van Brunt for sale?

"A. The Deere people were making this drill; they wanted me to take one in to show it up as a sample; from that it led on to the sale of them.

"X-Q. 53. At the special request of Deere & Webber, then, that you took it up?

"A. Yes, sir, they were selling these drills, and they wanted, of course, to sell the drills, and we bought them from them.

"X-Q. 54. You handled the rest of Deere & Webber's line?

"A. Yes."

Western Houghton, of Cooperstown, North Dakota, who had sold the Kentucky infringing drills, was asked, on page 514 of the Record:

"Q. 9. Please state, from your experience, what figure the pressure device cuts in the salability of the drill in that territory.

"A. We figure the coil spring pressure as an advantage."

Mr. Zimmer, of Smith & Zimmer, Minneapolis, who dealt for several years in the Peoria shoe drill, was asked, on page 868 of the Record:

"Q. 22. From your experience of the trade, would it have been possible for any one drill company to have sold all drills which these various parties had sold during that time?

"A. It was absolutely impossible."

The testimony of the nine witnesses who had sold or used Kentucky or Peoria drills containing the Hoyt invention and who are, therefore, as competent in this inquiry as those who sold the McSherry shoe drills themselves, if the complainant's contention that people bought the drills *because they had the Hoyt invention* be correct, shows that no such consideration moved or influenced them to make the purchase, but that many other reasons of business, of interest and of preference entered into the matter. How then can it be said that the complainant would have sold its drills if the defendants had not been in the field?

The next source of information is the testimony of the dealers who handled the *complainant's Dowagiac drills themselves,* and we find that they, too, were influenced by various considerations aside from the presence of the Hoyt invention. The spring pressure device was only one of a number of factors that entered into the reasons which caused the Dowagiac drills to be bought and sold. We will quote from some of the complainant's witnesses who handled the Dowagiac drills themselves to show the causes which influenced *them* to buy and sell them.

The purchasers of the Dowagiac drills themselves bought them on account of the shoes, the feed, the position of the shoes, the way they slanted, the general construction of the drill, its appearance, its general make-up, the way the shoe entered the ground, its riding on the heel, its lightness of draft, etc., as stated by the several witnesses—as well as on account of its spring pressure device.

Erick Erickson, a dealer in farm machinery at Cooperstown, North Dakota, was called by the complainant in rebuttal, and, after testifying that he had sold the Dowagiac drills for a number of years, was asked, on page 929 of the Record:

"Q. 6. Please state what there was about that drill that induced you to handle it.

"A. Well, I thought it was the best drill I could get.

"Q. 7. What features, if any, were brought to your attention to induce you to buy it?

"A. On account of the springs and shoes mostly, and also on the feed.

"Q. 8. What feature of the shoe was urged on you as—

"A. Well, I thought they had the best shaped shoe for running easy and clearing itself in the ground.

"Q. 9. Anything about the position of the shoe?

"A. Yes, sir; in the way they slanted; stood; the running part of it."

"Q. 11. You personally have sold the Dowagiac drill to farmers?

"A. Yes, sir.

"Q. 12. What features, if any, did you bring to their attention in selling the drill, and what seemed to be of importance in inducing the farmers to buy the drill?

"A. Well, the biggest part of it was in the springs and shoes.

"Q. 13. In selling the drill what would you do in the way of manipulation in explaining it to the farmers?

"A. Well, I had my drills set up on the floor, and would show them the shape of the shoes and the way the spring worked."

"X-Q. 11. In talking to the farmer to make a sale of the Dowagiac drills, would you not call attention to the general construction of the drill, its appearance, its feed, and the various features that you thought were desirable in it?

"A. Yes, sir."

"X-Q. 27. Now, isn't it a fact, Mr. Erickson, that the popularity of a grain drill depends somewhat on the kind of agent that is employed to handle that drill, as to his push and energy in handling it?"

"A. Oh, it has quite a little to do."

Michael O'Loughlin, a dealer in farm machinery at Rolla, North Dakota, who had sold Dowagiac drills, was called by the complainant in rebuttal, and on page 936 of the Record was asked:

"Q. 15. What feature or features of the Dowagiac drill induced you to purchase the same?

"A. Well, it was the general make-up of the drill, and the rod spring, that first attracted our attention to the drill."

Andrew J. Codding, an implement dealer at Valley City, North Dakota, who sold Dowagiac drills, was called by the complainant in rebuttal, and on page 940 of the Record was asked:

"Q. 13. State what you would do and what features you would present to the farmers in making sales.

"A. One thing was the shoe; the way the shoe entered the ground, and the next was the long spring. Our talking point was to give it a long sweep up and down; raise higher and drop lower."

"X-Q. 20. In selling Dowagiac drills did you not call the attention of the farmers to the general construction of the drill, its frame, its feed, the shape of the shoes and the manner in which they were hung so as to ride on the heel, and matters of that sort, as well as to the springs?

"A. Sure.

"X-Q. 21. You attached importance to all of these features in making sales, did you not?

"A. The two important features were the shoe and spring. We made our talk on that; on the shoe going lower in a dead furrow and in holes, or rising higher over trashy ground, over trashy stuff.

"X-Q. 22. You attached importance to the shape of the shoe, didn't you?

"A. Yes.

"X-Q. 23. And the manner in which it was hung so that it rode on the heel?

"A. Yes, sir."

Herbert Weston, a farmer of Valley City, North Dakota, who had bought and used Dowagiac drills, was called by the complainant in rebuttal, and on page 950 of the Record was asked:

"X-Q. 23. Isn't the satisfactory operation of the Dowagiac shoe drills to some extent, and I may say to a large extent, due to the particular shape of the shoe, and the inclination at which it is mounted or hung in the drill?

"A. Yes, sir; that would be one reason that I was attracted to them.

"X-Q. 24. Doesn't the fact that the shoe is hung so as to ride on the heel enable is to clear itself from trash and obstructions better than the shoes of most other drills?

"A. Yes, sir."

Charles E. Jones, an implement dealer at Lisbon, North Dakota, and who had had large experience with the Van

Brunt & Wilkins Company and afterwards with the Deere & Webber Company, and who was qualified by the complainant as an expert in the shoe drill business in the Northwest, was asked on page 957 of the Record:

"X-Q. 11. How important, in your opinion, is it, to have the shoe of a shoe drill of correct shape and correct hang, so as to ride on the heel?

"A. Well, I think that is a necessity.

"X-Q. 12. That decreases the draft, does it not?

"A. Yes, sir.

"X-Q. 13. And enables it to ride over obstructions the better, does it not?

"A. Yes, sir."

Martin N. Early, an implement dealer at Wahpeton, North Dakota, who had been a dealer in Van Brunt drills, was called by the complainant in rebuttal as to the features of the Dowagiac drill he exploited in making sales and, after saying that the long springs were the principal feature, he was asked on page 961 of the Record:

"Q. 24. Make any reference to the shoes and the way they stand?

"A. Yes, the position of the shoe; only a small portion of the point going into the ground, secures light draft."

"X-Q. 11. You say that the Dowagiac drill was much lighter than the Superior shoe drill?

"A. Lighter in draft, yes, sir.

"X-Q. 12. What caused that greater lightness in draft?

"A. The small portion of the point of the shoe of the Dowagiac drill that went into the ground, which I account was the cause of the lightness of draft.

"X-Q. 13. You called the attention of the farmers to the position of the shoe in the Dowagiac?

"A. Yes, sir.

"X-Q. 14. In making sales, did you?

"A. Yes, sir.

"X-Q. 15. And you explained to them that that caused greater lightness in draft, did you?

"A. Yes, sir."

Norman Nelson, a dealer in farm machinery at Church's Ferry, North Dakota, was called by the complainant in rebuttal, and on page 967 of the Record testified:

"Q. 11. Please state what features you dwelt on in selling the Dowagiac shoe drills to the farmers.

"A. Well, I made the point on the shoe, the way it was hung, the point of the shoe working in the ground, and also the spring."

"X-Q. 11. In selling the Dowagiac drills to the farmers did you not call attention to the general construction of the drill, such as the steel frame, the shape of the shoe, the angle at which it was hung, and other matters, as well as to the spring rod pressure device?

"A. Yes, I did.

"X-Q. 12. You showed up the drill generally and dwelt on all of the good points you could think of, did you not?

"A. Oh, yes."

Amund K. Tweeto, a dealer in agricultural machinery at Abercrombie, North Dakota, was called by the complainant in rebuttal and, after stating that he was selling Dowagiac drills, he was asked on page 1006 of the Record:

"Q. 25. Did you make any investigations as to the construction and quality of the drill at that time?

"A. Yes, sir.

"Q. 26. Were there any features about the drill that appealed to you besides the mere demand for it?

"A. Yes.

"Q. 27. If so, state what they were.

"A. Well, the principal thing was the light draft which was caused by the shape of the shoe, and the spring—well, the light draft was the principal thing.

"Q. 28. How was the shape of the shoe as compared with that of other drills?

"A. Well, it would touch the ground with the heel only in place of the others where the whole or mostly the whole shoe would come flat on the ground, and it would make the drill choke up and run heavier."

From the testimony of the eight witnesses called by the complainant in rebuttal and who had all been, with the pos-

sible exception of Jones, dealers in the *complainant's* Dowagiac drills, it appears that as a matter of fact, the *presence* of the Hoyt invention in the drills was *not the only feature* which entered into the sale of the drills containing it and that there were *many other considerations* which were influential and dominating in the purchase and sale. It is preposterous, therefore, to claim that the Hoyt spring pressure device *sold* the drills and that the complainant *would have made* the sales which the defendants made had they been out of business.

The next source of information as to the important features in the patented drill which served to sell the drills, is contained in the complainant's catalogues and advertising matter. We do not have to depend merely on the statements of complainant's *witnesses*, dealers in Dowagiac shoe drills containing the Hoyt invention, to show the importance and stress that were laid, by the complainant itself, upon *other* features of construction that entered into the Dowagiac drills besides the spring pressure device of the Hoyt patent. In the catalogues that the complainant sent out from year to year and from which quotations are printed in the Record, beginning at page 767, we find *greater* importance attached to *other* features than to the spring pressure device.

The Dowagiac advertising catalogues laid stress on the shoes, their manner of attachment to the frame, their shape, their weight, the peculiarities of construction of the frame, the wheels, the material, the finish, etc., and in short everything in the construction of the drill that would assist in demonstrating its desirability and facilitating its sale, in addition to and with greater prominence than its spring pressure device.

In the complainant's 1891 catalogue, at page 768, in reference to the peculiarities of the shoe, the complainant uses this language:

> "The Dowagiac V-Shaped Shoe, is the result of 22 years' experience and study to obtain the most perfect device possible for forming drill furrows. They are of lighter draft than any other because they displace less earth in forming furrows of same depth."

In this same catalogue we find this in reference to the shoe:

> "To purchasers who have not had experience with shoes we recommend the V shoe because it requires no more than half the power to draw it through the ground."

In this 1891 catalogue we also find the certainty of obtaining repairs speedily when required urged as a reason for purchasing Dowagiac drills. This was a sensible argument, and no doubt was an influential inducement to prospective purchasers.

In the Dowagiac 1895, 1896 and 1898 catalogues, at p. 769, we find this statement in reference to the importance of the shoe:

> "The vital part of a shoe drill is the runner. It has proved to be the weak part in nearly all of the condemned ones. It is a strong point of the Dowagiac; well made, nicely fitted, perfectly adjusted and attached in a practical way."

In its 1895 catalogue the Dowagiac Company again calls attention to the desirability of its shoe, saying:

> "The Dowagiac shoe is the result of many years experience and careful study to obtain the most perfect device for forming drill furrows. It is a perfect trash rider, lighter in draft than a hoe drill or seeder marker, something which works perfectly in wet as well as dry

ground; cuts into the sod and deposits the seed where nothing else will work at all."

In the Dowagiac 1895 catalogue we find great stess laid on the matter of feed for distributing the grain and a detailed description of the construction of the drill and its various parts. This latter we will quote from page 771 of the Record—the italics being from the catalogue:

"General Construction of the *Dowagiac.*

"Wheels. The wood wheels have solid hubs, drilled and rimmed the entire length, with bearing of 6 inches on the axle. Hickory spokes, ash rims, with tire ¼ inch thick. The 11, 13 and 15 Drills have 2½ inch tire, and all larger size, 3 inch. Metal wheels have malleable hub and box, straight spokes, and same tread as the wood wheels.

"Ratchet hubs have been much advertised, but in straight-way seeding are utterly useless and have the objection of a much shorter hub (about 3½ inches) as the cap bearing does not support the wheel.

"Axle. The axle is a continuous 1⅜ inch steel shaft revolving in heavy boxes. With one tight wheel and one loose, the axle revolves with the wheels, except when turning; hence but little wear in the hub of the loose wheel only.

"Frame. Made of best white ash, thoroughly seasoned and joined (not mortised), thoroughly braced and trussed. A Dowagiac Drill Frame has never been known to rot, twist, break or cause trouble in any way, although many have been in use more than twenty years.

"*They are stronger and stiffer than any metal frame of equal weight,* especially on wide drills.

"For short spans, metal is a success, and we use steel frames for our Hoe Drills and Seeders, which are smaller; but for wide frames we have yet to see one made of metal equal to the Dowagiac Ash Frame.

"Box. The box is of Michigan white wood with metal ends which bolt the frame.

"Gear. The 17, and all larger sizes, are double geared. The feed shaft is in two sections, and each

wheel drives half the feeds. This is a gerat convenience in sowing narrow strips and finishing fields, as either half of the drill can be worked alone by raising the shoes of the other half.

"METAL PARTS. But little gray iron is used. Nearly all light castings are malleable; draw bars and lever, steel; and pipe roller, wrought iron. No better springs can be made than Dowagiac Shoe Springs.

"FINISH. The Dowagiac is recognized as being the finest fitted and best finished Grain Drill made. Only the best material is used, and it is applied by skilled workmen. Its fine appearance is significant of many other superior qualities, which has given it the place of 'Leader of Grain Drills'."

This same 1895 catalogue contained a number of reasons why the Dowagiac shoe drill was the leader in the market. These reasons were as follows:

"*Why* THE DOWAGIAC IS LEADER.

"It sows at any desired depth; at a uniform depth, and evenly distributes the seed in the ground.

"It will not clog with stubble or other trash, but presses it into the ground and passes over it.

"It works with less horse-power than any other seeding machine in existence.

"It works well in all kinds of ground, whether wet or dry.

"Strong winds do not interfere with its work. The seed is protected from the time it leaves the feed until it leaves the shoe at the bottom of the furrow.

"It sows in rows so close as to utilize all the ground and leaves little room for weeds to grow.

"It is *simple, practical* and *effective*, combining the acknowledged elements of success which are divided among its competitors.

"*The Dowagiac Shoe Drill offers to growers of grain more advantages, greater durability and better results than can be found in any other seeding machine.*"

In the 1899 Dowagiac catalogue great stess is laid on the

frame of the machine, and we quote this matter from page 774 of the Record:

> "The frame of a machine bears the same relation to the machine that the foundation of a building does to the complete building. If not substantial the whole structure is in danger regardless of the strength of the other parts. The 5-inch Angle Steel used by us for all steel frame Drills and Seeders, leaves no doubt about the material, while the solid bent corners, through bracing and heavy center girt, makes the stability of the *Dowagiac* steel frames beyond question.
>
> "Next to the frame in point of durability is the Axle, for which we use 1⅜ inch hot polished steel shafting, extending from wheel to wheel, revolving with the wheels in heavy solid boxes.
>
> "The wheels, either wood or metal, are fully four feet with wide tire and six-inch hubs, drilled and rimmed their entire length, thus completing a very strong carrying part for a Drill or Seeder, which having proved thoroughly reliable on *Dowagiac* 26 shoe drills with pressure wheels (weight 1700 lbs.) insures its duability on all smaller sizes.
>
> "The hitch is low and adjustable, permitting the use of only sufficient neck weight to keep the end of the pole down."

But without quoting all of the statements and reasons contained in the complainant's catalogues why the Dowagiac shoe drill was the best on the market and why purchasers should prefer it to others, it is plain from an examination of these catalogues that many other things beside the spring pressure devices were advanced and urged by the complainant as reasons to effect the sale of its drills. It is true, as stated by Mr. Fowle, that these catalogues show the spring pressure device illustrated in a good many cuts. Supreme stress or importance, however, was not laid on it in the catalogues. The reading matter was devoted principally to emphasizing the importance of the various other reasons why purchasers should buy the Dowagiac drills.

When Mr. Fowle was called in rebuttal he was asked about the statements of the catalogues quoted, and on page 1036 of the Record he said that "These catalogues were made for the purpose of assisting in the sale of the goods"—the very reason we supposed they were made. On cross-examination, in answer to X-Q. 26, on page 1046, Mr. Fowle, in speaking of the complainant's advertisements in its catalogues, among other things, said:

> "It does not necessarily follow that because of features and parts of a machine being mentioned in advertising matter that the seller of the goods considers them especially valuable or advantageous features, because advertising is gotten out to sell goods and anything is included which will be of most weight in selling, regardless of the real merit of the features of the goods."
>
> "X-Q. 27. Have you not in your experience found as a matter of fact, that many grain drills have been sold on talking points which related to features that in your judgment were really of little importance so far as real merits and essentials of the drills were concerned?
>
> "A. Oh, yes, a good salesman can sell poor goods, and he of course makes use of all the talking points possible, but in the long run, true merit is what wins and the best machine in all ways considered is what brings results ultimately."

It was in recognition of the importance of having "talking points" that Mr. Bond, in closing his answer to Q. 11, enumerated a number of things contained in the Dowagiac and in the defendants' infringing drills, that he considered valuable even though not essential, and which he said "no doubt contributed materially to the salability of the drills employing them." Among these things that he enumerated were wide tires for the carrying wheels, giving a sufficient bearing surface for the machine to travel over, loose, wet or damp ground without unduly sinking, an axle made of cold rolled steel and revolving with the wheels when the machine was moving forward, ratchet hubs for both carrying wheels, so as to enable the

machine to turn without stopping the feed, a land measure enabling the operator to ascertain the quantity of land planted, a hitch that would relieve the necks of the horses from the weight, and setting the runners to ride on the point or apex at the heel end so as to more easily cut the soil, reduce the friction and prevent clogging. These points were grouped by Mr. Bond under the letters *a*, *b*, *c*, *d*, *e* and *f*. When Mr. Fowle was giving his final deposition we asked him about these points, and on page 1045 of the Record, he testified:

> "X-Q. 22. Irrespective of the real value or advantage of the features enumerated by Mr. Bond under the letters *a b c d e* and *f*, have they not all been points that the sellers of shoe grain drills have emphasized and held out as inducement to effect sales?
>
> "A. Yes, all of them by different manufacturers."

How is it possible to say that the Dowagiac drills were sold on account of the presence of the Hoyt invention alone, when the complainant, in its catalogues, was urging many reasons, aside from the spring pressure device, to influence purchasers to buy the drills, particularly when, as stated by the dealers, and as stated by Mr. Fowle, drills are often sold on account of features not touching their real merits, sold on "talking points" that had nothing to do with the Hoyt invention, sold on account of their general construction, their frames, the shape and position of their shoes, their force feed, their wide tires, their ratchet hubs, their finish, their appearance, and a dozen other features that appealed to the eye and fancy, not to say judgment, of the purchasers. When so many considerations enter into the minds of the purchasers, how can it be said that if the defendants had not been selling infringing drills the complainant would have sold those which they sold or have been able to have secured their customers? In fact, purchasers of drills are influenced by so many considerations that the complainant, in its 1898 catalogue, said:

"There is no machine so poor but what some are sold. There is no machine so worthless as to have no admirers. There is no machine so good as to secure the entire trade."

And again, in its 1900 catalogues the complainant stated the same truth in a slightly improved form, as follows.

"No machine is poor enough to have no friends, None so worthless as to find no sale.
"No machine is good enough to please every one, None so perfect as to secure the entire trade."

Mr. Fowle, in answering X-Q. 28, on page 1047 of the Record, stated that "a catalogue is gotten up for the purpose of selling the goods," and that the above statements were "substantially true," though no testimony was needed on a point so plain and obvious, and, in view of their truth, we again ask: How can it be claimed that the purchasers of the infringing drills would have bought Dowagiac when a dozen other makes, some containing the Hoyt invention and some not, were claiming real merit and competing for the trade? In this same answer Mr. Fowle added by way of explanation that "it does not follow that goods regardless of merit will divide the trade equally." But if they divide it at all—equally or unequally—they refute the complainant's claim that *its* drills would have been certainly sold if the defendants had been out of the field!

The next source of information from which to draw a conclusion as to whether or not the complainant would have been able to sell the drills which the defendants sold, is the testimony as to the sale of drills containing coil spring pressure devices, not infringing the Hoyt patent, and the popularity and salability of such drills. Of course it stands to reason that the complainant's probability of securing the market supplied by the defendants is affected by the popularity and salability of *competing non-infringing* drills, as well as by the

popularity and salability of infringing drills. We will, therefore, look at the testimony touching the popularity and salability of non-infringing coil spring drills.

The evidence shows that non-infringing coil spring drills were sold in competition with the Dowagiac drills; that sometimes they were taken in preference; that they worked successfully; that they gave satisfaction; that they held their own in the territory; that they had a sale as big as any of the other drills; that some dealers sold more coil spring drills than rod spring drills; that some dealers had better sales with the coil spring drills; that the coil spring pressure drills were popular among the farmers; that the sale of coil spring drills was increasing year by year; that they made headway and increased notwithstanding the Dowagiac drills; that if the infringing drills had been eliminated the sales of coil spring drills would have been greatly increased; that one party who had used six Dowagiacs for six years then bought three coil spring VanBrunt drills for his own use; that a good many farmers preferred to buy cheaper drills than the Dowagiac; that price was often a controlling consideration, etc., as stated by the several witnesses.

William J. Westergaard, a dealer in drills and farm implements at Valley City, North Dakota, after saying that he had seen drills with the rod spring and the coil spring and that "The coil spring is a little bit the best of them," was asked, on page 436 of the Record:

> "Q. 12. Were you acquainted with the Van Brunt device in your territory during the period of 1898 to 1902?
> "A. I have seen the Van Brunt; yes, sir.
> "Q. 13. What are the facts as to the popularity in the trade of that Van Brunt coil spring pressure shoe drill?
> "A. It was at one time considered the most dangerous competitor."

On page 10 Mr. Westergaard gave an experience which he had had at Sanborn of the salability of the Dowagiac and the Kentucky coil spring drills. He said:

> "My man gave an order for the Dowagiac, either three or four drills, and at the same time I had the five Kentucky coil spring 1905 steel shoe drills, and one of my customers who had previously given an order for the Dowagiac, when he saw the Kentucky set up, took that in preference. I sold the Kentucky drills before I sold all the others."

Albert F. Snell, a dealer in agricultural implements at Lake Park, Minnesota, who sold coil spring pressure non-infringing drills, was asked on page 464 of the Record:

> "Q. 7. Did you, in the period from 1894 to 1902, have occasion to sell a shoe drill employing a coil spring pressure device, and if so, with what success?
>
> "A. Had good success, always worked satisfactorily.
>
> "Q. 8. Can you indicate from your memory what year between 1895 and 1902 you had your best trade?
>
> "A. I think it must have been about 1894 to 1896, along there in those years; it might have been a year later or earlier, I can't tell exactly. I remember one year we sold 110 drills. They were not all Van Brunt, we had some of those that were Buckeyes and Hoosier, and a drill called the Rival, manufactured by Johnson.
>
> "Q. 9. From your observation and experience what would you say as to the subsequent years, from 1897 or 1898 to 1902, whether you have held your own in that territory or not?
>
> "A. I think I have; yes, sir.
>
> "Q. 10. What other drills have been your strongest competitors?
>
> "A. We have not had any strong competitors at all; The Dowagiac people came in there, I think, about four or five years ago, and they put a few of the cheap machine drills on the market and they run one or two years and then they were out practically. They haven't had an agent there for three or four years."

Ellef Ellis, who sold drills at Hallock, Minnesota, was asked on page 471 of the Record:

"Q. 7. Please state whether you handled the Van Brunt coil spring shoe drills.

"A. I did.

"Q. 8. Please state what is the fact as to the salability of that Van Brunt coil spring shoe drill in your territory during 1894 to 1902.

"A. The Van Brunt drill had a big sale during those years; as big as any of the drills.

"Q. 9. Was the Dowagiac rod pressure shoe drill sold during that time in your territory?

"A. Yes, sir.

"Q. 10. What is the fact as to which shoe drill had the lead, or was more salable in your territory?

"A. I think the Van Brunt had the lead, probably, with the exception of one year.

"Q. 11. What year was that?

"A. Year 1900.

"Q. 12. What as to the year 1900, as to the circumstances under which the Dowagiac shoe drill was sold, whether there was anything to account for its being sold largely that year?

"A. Yes, the cut in price."

On cross-examination the witness Ellis was asked in detail as to his sales of coil spring pressure drills and the Kentucky rod spring drills—the infringing drills—and on page 473 testified:

"Previous to 1895 we sold the Monitor; 1895 we sold the Van Brunt, and after that we sold the Van Brunt and Kentucky.

"X-Q. 24. How many Van Brunt and how many Kentuckys?

"A. From 1895, 1896 and 1897 we sold, I think—average about twenty Van Brunts, and 1896 and 1897 we had those two years six Kentucky, three each year; 1898 we had half and half, twelve each; 1900 we had seventeen Van Brunt and ten Kentucky; 1901 we had six Kentucky and ten Van Brunt; 1902 we had fifteen Kentucky and

ten Van Brunt; 1903 we had fifteen Kentucky and ten Van Brunt; 1904 we probably had about half and half.

"X-Q. 25. Were these all shoe drills?

"A. No, sir; they were not.

"X-Q. 26. How many of them were shoe drills?

"A. Up to 1902, I think, they were practically all shoe drills; after that mostly all disks.

"X-Q. 27. You say in 1900 there was a cut in the price?

"A. Yes.

"X-Q. 28. Just how much?

"A. About $10 on the 22 shoe, and about $6 on the 20."

Gudbrand L. Elkin, who sold drills and agricultural implements at Mayville, North Dakota, on page 489 of the Record, testified:

"Q. 13. Do you know anything as to a drill that was sold during the period from 1894 to 1902, known as the Van Brunt coil spring shoe drill?

'A. Yes, sir, sold by our competitors; we had it in opposition.

"Q. 14. Was there any trouble or difficulty with the coil spring pressure device in that drill?

"A. Never heard of any.

"Q. 15. From your experience would you say that in your territory, or part of your territory, that that pressure device was satisfactory?

"A. Yes, sir."

Charles K. Stocklund, a dealer in farm implements at Stephen, Minnesota, on page 499 of the Record, testified:

"Q. 8. What drills or shoe drills have you known of being sold in that territory during the period of 1894 to 1902?

"A. The Van Brunt and Wilkins and the Dowagiac and the Peoria and Kentucky and the Monitor.

"Q. 9. What is the fact as to the drill during that time that was the leading drill in that country?

"A. The Van Brunt and Wilkins was the leading drill.

"Q. 10. Was it a flat spring pressure device or a coil spring?

"A. A coil spring.

"Q. 11. Will you please explain whether you yourself have had a Dowagiac rod pressure drill and offered it for sale, together with the Van Brunt coil spring drill?

"A. Yes, sir.

"Q. 12. Please explain how many Van Brunts and how many Dowagiacs you sold that particular year.

"A. I sold 61 Van Brunt and Wilkins drills and two Dowagiacs in 1892."

"X-Q. 24. How long did you continue to handle the Dowagiac?

"A. Only that year.

"X-Q. 25. Why did you discontinue?

"A. Because we had better sales with the Van Brunt."

Thomas J. Smith, a dealer in drills and farm implements at Grand Forks, North Dakota, on page 505 of the Record, testified:

"Q. 12. What is the fact as to what drill had the lead in that territory at that time?

"A. Van Brunt had the lead there when I was in business.

"Q. 13. What other drill was sold in competition?

"A. I sold the Dowagiac and the Kentucky and the Havana Press—four drills."

"X-Q. 63. Did your Van Brunt sales decrease when you were selling the Kentucky or Dowagiac?

"A. No, sir, sales kept up just the same, about."

Western Houghton, selling farm machinery at Cooperstown, North Dakota, testified, on page 514 of the Record:

"X-Q. 14. When did you handle the Kentucky?

"A. Handled the Kentucky in the year 1897 and 1898, and handled it since 1902.

"X-Q. 15. Handled the Van Brunt same years?

"A. Always handled the Van Brunt ever since I have been in business.

"X-Q. 16. If the Van Brunt gave such satisfaction why did you take on the Kentucky?

"A. Thought it was all right to carry two drills.

"X-Q. 17. Kentucky wasn't near as good as the Van Brunt?

"A. No, sir, didn't give as good satisfaction."

"X-Q. 41. Which drill brought the best price at Cooperstown, the Dowagiac or the Van Brunt or the Kentucky, if you know; that is, prior to 1902?

"A. The Van Brunt and Kentucky sold for about the same, I think; if anything they sold a little higher than the Dowagiac."

Mr. A. W. Wilcox, secretary of the Van Brunt Manufacturing Company, of Horicon, Wisconsin, who manufactured and sold the Van Brunt drills, testified on page 538 of the Record:

"Q. 18. What would you say as an estimate in your business, in rough figures, were the number of drills of the shoe furrow opener type like the exhibit, which were sold during the period from 1894 to 1903, not including 1903?

"A. In the neighborhood of 16,000 or 17,000."

Without quoting further, however, from *defendants'* witnesses, we will see what the *complainant's* witnesses, mostly dealers in Dowagiac drills, called in rebuttal, have to say about the popularity and salability of the Van Brunt and other coil spring pressure type of drills.

Charles G. Gangelhoff, of Long Lake, Minnesota, experienced in the implement business and as a traveling man selling drills, called by the complainant in rebuttal, on page 921 of the Record, testified:

"X-Q. 12. During your experience in dealing with shoe drills, and particularly during the years say from 1895 to 1902 or 1903, did you know of other shoe drills that had spring pressure devices of different kinds in use?

"A. I did.

"X-Q. 13. Did you know of any that had coil spring pressure devices?

"A. I did.

"X-Q. 14. What kinds?

"A. The Van Brunt and the Monitor.

"X-Q. 15. I will ask you to state whether or not the coil spring pressure devices on these other shoe drills were popular among the farmers, or gave satisfaction, or what the fact may be?

"A. I think they were. At any rate they sold a large number of machines, and continued to hold their agencies."

Erick Erickson, of Cooperstown, North Dakota, dealing in farm machinery, called by the complainant in rebuttal, testified on page 932 of the Record:

"X-Q. 15. What other shoe drills were sold in competition with the Dowagiac drills in your territory?

"A. Well, there was the Van Brunt and Wilkins, the Kentucky, the Monitor, the Havana, and I believe the Sucker State, a drill of that make. I think there was some of them sold."

Charles E. Jones, of Lisbon, North Dakota, familiar with shoe drills, having had charge of the contracts and settlements for the Van Brunt & Wilkins Company in a part of North Dakota and Minnesota, and afterwards in the employ of the Deere & Webber Company, called by the complainant in rebuttal, as a drill expert, on page 952 of the Record, testified:

"Q. 19. State about how many Van Brunt shoe drills you would sell per annum in this territory that you covered, which as I understand, takes in the eastern part of the Dakotas and the Western part of Minnesota and known generally as the Red River Valley region.

"A. Well, that varied a little every year. I think it increased a little every year. During the period that I worked for them I think it ran from about between four and five hundred to between ten and eleven hundred machines. There would be a small percentage, I don't know, perhaps twenty or thirty seeders, in that every year at the first."

"Q. 23. In your judgment and from your familiarity with the territory, state whether the Van Brunt or the

Dowagiac would have been likely to have taken the trade which was taken by the Kentucky and other drills like the Dowagiac that were in competition, and assign any reason for the answer you may make.

"A. Well, I don't know. The Van Brunt trade was growing; their percentage of business was increasing every year. I don't know just how the division might have been."

"X-Q. 6. I believe, Mr. Jones, you have said that the sales of Van Brunt shoe drills with their coil spring pressure devices, made headway and increased, notwithstanding the competition that they met with from the Dowagiac and other shoe drills that were in the market; did I understand you correctly?

"A. I think that is true on the territory that I covered, as far as I know. That is my recollection of it.

"X-Q. 7. That states the result of your experience and knowledge on the subject, does it?

"A. Yes, sir.

"X-Q. 8. If there had been no Kentucky, or Peoria, or McSherry shoe drills for the Van Brunt drills to meet and compete with, what in your opinion would have been the result or effect on the sale of Van Brunt drills?

"A. Well, I don't see how they could help but be more.

"X-Q. 9. That is, they would have been still greater, would they, in your opinion?

"A. I should think so, yes, sir.

"X-Q. 10. If the Dowagiac drill then had been the only one that it had met on the market, you think the sales of the Van Brunt would have been still greater increased?

"A. Yes, sir."

"X-Q. 14. Do you think that the Dowagiac company's sales of shoe drills would have been increased to the extent of the sales of the Kentucky, the McSherry and the Peoria drills, if those drills had been eliminated from the market, notwithstanding the Van Brunt and other coil spring pressure drills were offered on the market?

"A. I don't think they would have got that greater proportion of the trade."

Martin N. Early, an implement dealer of Wahpeton, North

Dakota, called by the complainant in rebuttal, testified, on page 962 of the Record:

"X-Q. 1. I believe you have said that while you were selling Dowagiac drills, the Van Brunt, the Sucker State and the Monitor shoe drills were sold in competition?

"A. Yes, sir."

"X-Q. 3. You say you sold about twenty Dowagiac shoe drills a year?

"A. Yes, sir.

"X-Q. 4. Why didn't you sell more?

"A. That was all the trade that we had."

"X-Q. 6. Some of the farmers preferred to buy the Van Brunt, or the Monitor, or the Sucker State, did they not?

"A. It was usually the difference in price that induced them to buy."

"X-Q. 9. They bought them in preference to buying the Dowagiac drills at the price at which you offered them?

"A. Yes, sir.

"X-Q. 10. Isn't that the fact?

"A. Yes, sir, that is the fact."

Norman Nelson, dealer in farm implements, at Church's Ferry, North Dakota, called by the complainant in rebuttal, on page 968 of the Record, testified:

"X-Q. 1. About how many Dowagiac shoe drills did you sell a year on the average?

"A. Oh, I should judge 18 or 20, something like that.

"X-Q. 2. What kept you from selling more, if anything?

"A. Well I don't know. I supplied my customers and that was about all I could do."

"X-Q. 4. What other shoe drills of any kind were sold in your territory?

"A. The Monitor and the McSherry, and I guess several—I forget the name—Sucker State; I guess there was a few of them sold."

"X-Q. 7. Didn't the sale of those drills prevent you from selling more Dowagiac drills in your territory?

"A. Well, I presume likely they did. If they hadn't

been there and been sold probably I would have sold Dowagiacs in place of them."

Frank Kimm, a farmer of Cragness, Minnesota, was asked, on page 982 of the Record:

"X-Q. 8. That is, about 1900 or 1899?
"A. Yes.
"X-Q. 9. That you purchased the Dowagiacs?
"A. The Van Brunts.
"X-Q. 10. Then when before that had you purchased Dowagiacs up here; 1893 or 4?
"A. 1893.
"X-Q. 11. You had run them six years?
"A. Yes, sir.
"X-Q. 12. Then you purchased how many Van Brunts?
"A. Three.
"X-Q. 13. That was in 1900?
"A. But in the meantime the farm that I went onto had five Dowagiacs I was using, and one also that I purchased. I was using six Dowagiacs from in 1893 up to 1899."
"X-Q. 16. Then in 1899 you purchased for your own use three Van Brunts?
"A. Yes, sir."

Alex. Anderson, salesman of drills and collector of drill accounts for the complainant, of Fargo, North Dakota, on page 994 of the Record, testified:

"X-Q. 14. Name all the kinds of shoe drills that you sold Dowagiac drills in competition with here in the Northwest Territory.
"A. The Monitor, Buckeye, Hoosier, Van Brunt, Havana, McSherry, Peoria, Tiger, Sucker State, Superior and Kentucky.
"X-Q. 15. With the exception of the McSherry, Peoria and Kentucky, these various drills had coil spring pressure devices for the shoes, did they not?
"A. Yes, except the Havana."
"X-Q. 36. How did the prices of these coil spring pressure drills compare with the price of the Dowagiac shoe drills?
"A. Always lower.

"X-Q. 37. There are always a good many farmers with whom price is a controlling consideration, are there not?

"Yes, sir, you bet."

"X-Q. 56. As a matter of fact you didn't add anything onto the price of the drill by reason of this spring?

"A. No."

Amund K. Tweeto, a dealer in farm machinery at Abercrombie, North Dakota, after being asked what led him to deal in the Dowagiac drills and whether there were any features about them that appealed to him, was asked, on page 1006 of the Record:

"Q. 27. If so state what they were.

"A. Well, the principal thing was the light draft which was caused by the shape of the shoe, and the spring. Well—the light draft was the principal thing."

"X-Q. 13. The price at which shoe drills are sold is a controlling consideration with a great many farmers, is it not?

"A. The price, yes."

Clarence Pattison, who had had a great many years' experience in the grain drill business, having begun with the complainant at Dowagiac, and having served in Dakota, and having been promoted by the complainant to the position of general agent at Kansas City, which position he occupied for several years, was asked, on page 863 of the Record:

"R-D. Q. 371. If no shoe drills with rod spring pressure devices had been sold in the Northwest, what kind of shoe drills, if any, would have taken their place?

"A. The coiled spring pressure.

"R-D. Q. 372. Then, if a less number of shoe drills with rod spring pressure devices had been sold, what effect do you think that would have had on the sale of the shoe drills with coil spring pressure devices?

"A. They would have had an increased sale.

"R-D. Q. 373. Then, if all of the rod spring pressure shoe drills had been eliminated from the Northwest market except those put on the market by the Dowagiac

Manufacturing Company, what effect do you think it would have had on the sale of coiled spring shoe drills?

"A. They would have had an increased trade."

From the testimony of these eighteen witnesses—eight of them called by the complainant in rebuttal—the salability and popularity of the non-infringing *coil* spring drills is established beyond question or cavil. If the defendants had not been in the field no doubt a great many of these coil spring drills would have been sold to the parties who bought the defendants' infringing drills. Mr. Jones, complainant's witness, says that if the McSherry, the Kentucky and the Peoria drills had been eliminated from the market he does not think the complainant would hace got the "greater proportion of the trade." And Mr. Pattison, speaking of the coil spring drills, says that "They would have had an increased trade." Probably the Dowagiac drills would also have had an increased trade, and have helped fill the vacancy caused by the elimination of the defendants from the market. but to what extent? How many more drills would it have sold? Can the court guess? But it is for the complainant to show *to what extent* it would have made the sales that the defendants made, notwithstanding the competition of the coil spring drills, if the defendants had been out of the way.

The next source of information open to us is the evidencee of the parties who negotiated and executed the contracts, the correspondence leading up to the contracts, the statements contained in the advertising matter made use of, and matters of that kind. An examination of this data will show that:

The testimony of the parties who negotiated and executed the contracts under which the infringing McSherry drills were bought, including the correspondence and the state-

ments and representations of the advertising matter sent out by the defendants to induce purchases, will show that the rod spring pressure device was not a controlling nor even a prominent or important consideration that caused the defendants to handle the infringing drills.

Mr. Allen, the secretary of the Moline Plow Company, who executed the contracts, stated on page 805 of the Record that he was not "familiar with or acquainted with the particular kind of spring pressure device that was to be used on the McSherry shoe drills for holding the shoes to the ground." He further stated that he "knew nothing about the spring pressure device"; that he did not "ask anything about the spring pressure device"; and that "the particular spring pressure device had nothing to do, in my mind, with the making of the contract."

The party who negotiated the contracts on behalf of the Minnesota Moline Plow Company was Mr. Thomas H. Martin, its manager at Minneapolis. The negotiations were conducted by correspondence with the McSherry Company and with the home company at Moline. At the time the contracts were negotiated several other drills were under consideration and correspondence was had with several other manufacturers. Among these were the Sucker State, the National, the Dempster, the Peoria, and the Kentucky drills, besides the McSherry (Record, pp. 595-596). In Q. 25, p. 549, Mr. Martin was asked "what caused him to recommend" the McSherry drill, and he replied that "I had known of the drills for 20 years, more or less. It was for their general good qualities that I preferred them. No one particular part especially over the others, only the general satisfaction they gave to the farmers, as far as I knew, and the dealers." In Q. 28 he was asked whether he "recommended the drills on account of their having the particular spring pressure

device that they had, or what the fact may be," and answered that "It was not on account of the spring alone that I recommended the drill; more on account of its excellent seeding qualities." On page 567, in Q. 59, Mr. Martin was asked to "state whether or not the peculiar construction of the spring pressure device of the McSherry drills was the feature above all others that caused you to buy them from the McSherry company," and replied that "it was not." Mr. Martin, in answering the next question, says that the rod spring was "considered favorably," and that there was "no objection to it," but that "other parts had to be favorable or the spring pressure would be of no account."

In a letter from the McSherry Company to the Minnesota Company, dated October 19, 1895, printed at page 551 of the Record, the McSherry Company, among other things, said that "We use pressure similar to that of the Dowagiac, and have used this pressure on our shoe drills for three or four years very successfully." Mr. Martin was asked about this statement in Q. 74, on page 568, and stated that that fact did not deter him from taking the McSherry, but added that "other springs, all other considerations being equal, would not have deterred me from making the contract." In reply to the McSherry letter of October 19, the Minnesota Company, in a letter dated October 21, 1895, printed on page 570, among other things, said that "Our strongest competitor here is the Dowagiac drill, and if you have something embodying some of the same features, it would enhance your prospects for a deal with us, provided, of course, that the prices were in line with the other drills we have been offered." Mr. Martin explains why the Dowagiac drill was one of their strongest competitors, on page 571, where he says that "At that time the Dowagiac drill was a good drill, considered so in the trade, from the fact of its being built light, fine shoes, good springs and a good seeder as well, and it was favorably spoken of." In

Q. 81 we asked Mr. Martin what features in the Dowagiac drill were referred to in the letter of October 21, above, and he said that "The main features were its being light, and a fine shoe, and it had a good spring; good spring pressure; had the reputation of being a good seeder, and was generally satisfactory to the trade." In answering Q. 84, Mr. Martin says that at that time he did not know that the spring pressure device of the McSherry drills was an infringement of the Hoyt patent, and that he "didn't know of it until sometime afterwards. Two or three years, perhaps." This is unquestionably the fact, as it was not until several years afterwards that the McSherry drills were held to be infringements. Not only did it take a construction of the Hoyt claims by the court to find infringement, but one form used by the defendants in this case was held by the Circuit Court to be not an infringement.

By referring to the letters written by the Minnesota Company to the home company at Moline, and to the McSherry Company, in the reasons why the defendants favored and recommended the McSherry drills, not one word do we find laying emphasis upon the spring pressure device contained in the McSherry drills, or even stating what kind of spring pressure device they were to be equipped with. On the other hand, we find many references to the matter of price, to the kind of frame, to the construction of the wheels, to the lightness of draft, to the form and finish of the shoes, and to the general appearance of the drills.

In a letter to the home company, dated October 28, 1895 (Record, 553), the Minnesota Company say that they have written the McSherry Company "that prices would figure largely in the prospect of any trade we may have in view with them on this implement." The home company wrote the Minnesota Company November 8th (Record, 556), that they

thought the McSherry people "will satisfy us in quality of goods, prices, etc., better than others." In a long letter to the home company, dated November 18, and printed at page 557, the Minnesota Company, after referring to the McSherry Company's prices, among other things, said: "If you can get a less price than this, it will be all the better, but we think that the prices are reasonable, and compare with those sold by our competitors." In this same letter the Minnesota Company call attention to some features of construction, saying that "The diameter of the wheel is 48 inches; to be a wood wheel, 2½ tire for 10 and 12 shoe, and 2¾ tire for 14 and 16 shoe, and we think a three-inch tire for the 18 and 20 shoe drills would be best." No reference whatever is made to the spring, but to the details of construction of the wheels for the different sized drills. The Minnesota Company then says that it does not know how strong the drill is, "But knowing the McSherry folks have been in this business for nearly twenty years, do not think they would run any risk of putting out an implement that would not stand the requirements of the trade."

In a letter, dated October 4, from the Minnesota Company to the McSherry Company (Record, 570), they lay stress on the matter of prices. And again in the letter of October 21, on the same page, they emphasize the importance of having low prices. In a letter from the Minnesota Company to the McSherry Company, dated October 28 (Record, 572), the Minnesota Company says that "We hope to have your prices and catalogue soon, as our ability to use it will depend largely on the prices you make to us." In the letter of November 14th, the Minnesota Company wrote the McSherry Company (Record, 573), that the sample drill had been received and set up. They say that "We like the appearance of it very much." They criticise the prices. They say that "We will need to have wood wheels, with the same width of tire as the steel

wheels on the sample sent us." No reference, however, is made to the spring pressure. In the letter of November 22 (Record, 575), the Minnesota Company again write the McSherry Company, saying that "We will want the wood wheels, 2½ inch tire for the narrow drill and 3 inch tire for the wider drill."

In the letter of January 27, 1896 (Record, 579), the Minnesota Company, after receiving the first carload of drills expressed great "disappointment and indignation" when they opened the car and examined the drills. They were disappointed in the frame and in the shoes. Among other things, they said that "We supposed that we were getting a steel frame drill from you, according to the sample sent us, and printed matter, which enters into the terms of the contract, but we find a large piece of wood, instead of the main steel cross piece in those received today." They said that they must have an explanation of this at once, and then added that "Aside from this the shoes are not at all what we thought they would be, or what they are represented to be; they are not finished regular in form, and some of them are so soft that they would be easily cut with a knife." Again in the letter of January 29, 1896 (Record, 580), they say that since the last letter they have carefully examined the drills, and again expressed their dissatisfaction. Among other things they said that "We find a very serious objection to the drills in the way the shoes are finished," and they go on to specify the points of objection.

In the letter from Mr. Blenkhorn, one of the defendants' traveling salesmen, to the home company, dated October 18 (Record, 582), he discusses the matter of drills for the Minnesota Company, and says that "The prices of our Minneapolis drill which we had last year are too high. A steel frame drill would sell better, especially if it would be put in at a

lower price." In the letter from the Minnesota Company to Mr. Blenkhorn, dated November 15 (Record, 583), the Minnesota Company, in speaking of the McSherry drill which they had decided to handle, says that "It is a beautiful black steel frame, every part strong and well made of the very best material that can be had upon the market." In a letter to another traveling salesman, Mr. Anderson, under date of November 15 (Record, 585), the Minnesota Company, among other things, said that "As to the drills, we have secured a fine steel frame made by the McSherry Mfg. Co., Middletown, Ohio, and it is a dandy. The shoes run in even numbers from 12 to 20; it is a beauty; it is well braced, light and does not drag on the horses' necks." In a letter from Mr. Anderson to the Minnesota Company, dated October 9 (Record, 588), in specifying the requirements of a drill, he said that "They want a lighter drill, with a steel frame, and also one less expensive."

It will be seen that in the correspondence the defendants were solicitous about the *price*, about the *wheels*, about the *frames*, about the *shoes*, about many things, and laid stress upon the construction of many parts, but nowhere did they consider it of sufficient importance to inform the home company or their traveling salesmen as to the *particular kind* of spring pressure device the drills were to be equipped with. They made no inquiry. They appear to have attached no special importance to it.

Nor did the printed matter which the defendants procured from the McSherry Company and which they sent out, attach as much importance to the kind of spring pressures that were to be used as to other things and features. The catalogue furnished by the McSherry Company and sent out by the Minnesota Company will be found printed in full, beginning with page 559 of the Record. This catalogue laid stress on the

all metal character of the McSherry drills, on their *steel frames*, on their *adjustable* force feed, on their *high carrying wheels* with broad tires and both acting as drivers, on the *lever* for applying pressure to all the shoes at once, while maintaining their independence of action, on their *cold rolled* steel axles revolving with the wheels when the drills are going forward, on the construction of the *shoes*, on the means for *measuring* the ground seeded, on the ability of the drills to sow *all kinds of grain* as well as wheat, on the low down *adjustable hitch* by which the horses' necks were relieved of the weight, on the *grass seed sower* that could be attached to the front of the grain hopper to sow broadcast in front of or behind the shoes, on the *hopper bottoms* having heavy iron plates arched between the feed openings, on the means for adjusting the *quantity* of grain sown, on the *durability* of the drills, their ease of operation and their ability to do first-class work in first-class style, to a greater extent than it did on the rod spring pressure device. In fact, out of the 89 printed lines of the catalogue only three and a part of the fourth were devoted to a description of the construction of the spring pressure device, and this near the end of the catalogue. The statement under the heading of spring pressure contained in the body of the catalogue does not describe the *construction* of the spring pressure, nor specify whether it shall be formed of rods or of coil springs. It is applicable to either, to the one as much as to the other (Bond, Record, 766). The description of construction of the spring pressure device is confined to only 39 words, and simply say that "The springs are made long, and are of the best oiled tempered spring steel, allowing them to hold pressure when the runners drop into depressions and also allow the runners, or shoes to raise up in passing over obstructions."

If the particular spring pressure device was the thing which caused or induced the sale of the drills to the defendants, it is

incredible that special importance and stress were not laid upon it in the correspondence between the Minnesota Company and the home company, and with the McSherry Company, and in the correspondence with Blenkhorn and Anderson, two of the defendants' traveling men. Importance and stress were laid on the frame, on the wheels, on the shoes, on the general construction, on the appearance, and, in the catalogue, on a dozen different features, but no special stress or importance was laid on the spring pressure device. The correspondence quoted in the record contains everything that was shown on the subject. All of the letters, the letter press books, and the letter files were thrown open to the examination of the complainant or their men, so that if there had been anything on the subject it would have been brought into the record. On page 616 of the Record, complainant's counsel was asked whether he desired to make "any further examination of the letters, press books, and other files of the defendants company," and was told that if he had "any reason to be dissatisfied with the facilities that have been accorded him for examining their books, files, etc.," we desired now "to give him such other and additional opportunity as he may want." Complainant's counsel expressed himself as considering "that every courtesy had been extended to the complainant that might be asked in this behalf," and stated that he might desire "to refer to the letter books and correspondence which the defendant has had with dealers regarding shoe grain drills," and he was assured that, if he so desired, the opportunity would be given him or whoever he might designate to make the examination.

In view of the above thorough examination of the books, letters, correspondence, etc., we are safe in saying that no special stress or importance was laid on the spring pressure device in the correspondence, copied in the record or left out, as there certainly would have been had it been the leading or

inducing cause for the favorable consideration by the defendants of the McSherry infringing drills. So far as the minds of the parties negotiating the contracts for the purchase of the McSherry drills were concerned, they certainly were not moved to buy them because of the presence in them of the Hoyt invention.

The next and final source of information on the question as to what features in the infringing drills constituted the most important consideration leading to their selection by the defendants as the drills in which to deal, is the written contracts under which the drills were bought by the defendants. An examination will show that—

The written contracts between the Minnesota Moline Plow Company and the McSherry Manufacturing Company, under which the drills were bought, contained no requirement as to the kind of spring pressure device the drills were to have. No mention was made of them. No kind was included nor excluded. A coil spring pressure device would have met the requirements of the contract as fully as a rod spring.

The infringing McSherry drills were bought by the Minnesota Moline Plow Company from the McSherry Manufacturing Company, of Middletown, Ohio, under written contracts. These contracts are dated December 2, 1895; June 2, 1896; September 4, 1897; September 21, 1898; August 23, 1899, and June 29, 1900. They were offered in evidence, page 548 of the Record. These contracts contained no specification of the detailed construction of the drills which form their subject-matter. They provided that the goods should be "strictly up to grade as to ability, workmanship, style and finish," specified the prices to be paid, the terms of payment, delivery, and matters of that kind. They contained not a word as to what kind of spring pressure device they should be equipped

with. Any kind would have met the terms and fulfilled the requirements of the written contracts. The contracts, therefore, contained nothing to show that the defendants purchased the drills from the manufacturers *because* of their equipment with any *particular kind* of spring pressure device, much less because of their equipment with the Hoyt style of spring pressure.

From the above consideration of the testimony of the dealers to whom the defendants sold the infringing drills, the testimony of dealers in other infringing drills and in the Dowagiac drills themselves, the statements and representations of the complainant in its advertising catalogues, the testimony as to the salability and popularity of coil spring pressure drills, the testimony of the parties negotiating and executing the contracts, including the correspondence and the statements of the advertising matter used by the defendants, and of the wording of the contracts themselves—the six soures of light and information to which we can resort to determine whether or not it was the presence of the Hoyt spring pressure which sold the defendants' infringing drills —it is preposterous to claim that if the defendants had not been selling the infringing drills which they sold the complainant would have sold to their customers or increased their sales to the extent of the sales effected by the defendants, to say nothing of the thousands of other infringing drills which, as they contained the Hoyt invention, would have been equally as attractive to the defendants' customers and have doubtless secured some of their patronage, if the claim of the complainant be true that the spring pressure device was what made the drills attractive and salable. The conclusion of this branch of the discussion may be thus stated as a proposition of fact:

The presence of the Hoyt spring pressure was not the inducement which caused the infringing drills in this case to

be bought or sold, and at the most was only one of a number of inducing causes. If, therefore, the defendants had not been selling infringing drills it does not follow that the complainant would have sold its Dowagiac drills in their place or stead.

But if the complainant could have secured a portion of the trade that went to the defendants, if they had not been in business, what proportion would have gone to it? How many additional drills would it have sold? How many of the customers who bought from the defendants would have bought from it? How many sales did they lose because of the presence of the defendants' infringing drills in the field?

The complainant must apportion and show by reliable and tangible evidence the *proportion* of the defendants' business it would have received under all the circumstances had they not been in competition. The circumstances that affect the question are the competition of other infringing drills, the competition of non-infringing drills, the difference in price which often determines a sale, the whims and preferences of customers, and many like considerations enumerated in the evidence, aside from the capacity and ability of the complainant to have supplied the market. The burden was on the complainant to apportion the extent and amount of its losses under the conditions as they existed, and in the absence of reliable and tangible testimony making such apportionment, it is entitled to recover nothing by way of damages beyond a nominal sum.

Nor can the complainant recover damages in this case on account of lost sales, diversion of business, reduction of prices or increased expenses in meeting the competition of infringing drills beyond the particular amount or portion that it is able to show by reliable and tangible evidence was occasioned

by the defndants. It is immaterial whether the complainant, in order to meet the competition occasioned by infringing drills in the Northwest, put on nine or twenty-nine additional traveling men, or whether it increased its expenses to any extent claimed, or whether it reduced its prices ten per cent. or fifty per cent., or lost a hundred or a thousand sales, unless there is evidence to enable the court to substantially *separate and apportion* the particular part or portion of such increased expenses, reduction of prices, or lost sales that was occasioned by *these* defendants in view of the fact that there were "approximately 20,000" other infringing drills, and from 20,000 to 30,000 other *non*-infringing drills being sold by hundreds—probably a thousand—other dealers at the same time in competition. The principle governing this ground of damages may be thus stated:

Where a complainant or plaintiff claims damages on account of lost sales, reduction of prices, or increased expenses, and the defendant is not the only infringer who may have caused such lost sales, reduction of prices, or increased expenses, the plaintiff or complainant must produce tangible and reliable evidence showing what particular part of the lost sales, reduced prices, or increased expenses was occasioned as the direct result of the defendants' infringement, and, without such evidence, no liability on such account, beyond nominal damages, is raised.

Many decisions could be cited in support of the above propositions, but we will content ourselves with one or two.

In *Yale Lock Co.* v. *Sargent*, 117 U. S., 553, this court, in allowing a claim for damages because of reduction of prices, was careful to state the fact that there was *only one* competitor, saying:

"The evidence shows that the reduction of prices by

Sargent was *solely* due to the defendant's infringement. The *only* competitor with Sargent in the use of his turning bolt arrangement, during the period covered by the accounting, was the defendant."

In *Boesch* v. *Graff*, 133 U. S., 705, this court said:

"Where the patentee granted no licenses, and had no established license fee, but supplied the demand himself, and was able to do so, an enforced reduction of price is a proper item of damages, if proven by satisfactory evidence. *Yale Lock Manufacturing Co.* v. *Sargent*, 117 U. S., 536. The damages must be actual damages, but where the patented feature is the essential element of the machine or article, as in the case just cited, if such damages can be ascertained they may be awarded. When, however, a plaintiff seeks to recover because he has been compelled to lower his prices to compete with an infringing defendant, he must show that his reduction in prices *was due solely* to the acts of the defendant, or *to what extent* it was due to such acts. *Cornely* v. *Marckwald*, 131 U. S., 159. There must be some data by which the actual damages may be calculated."

Without citing other cases, however, it is perfectly plain that the above decisions are in perfect accord with the philosophy of the law and the principle that where a number of factors enter into the question of profits or damages, a separation or apportionment must be made to determine the actual profit realized by the defendant, or the actual damage suffered by the patentee. It would manifestly be inequitable, where there were a dozen independent infringers in competition with the plaintiff, all of whom had caused the reduction in prices or the loss of sales or the increase of expenses in meeting such competition, to visit on *one* the consequences resulting from the acts of *all*. It is only when a number of parties are engaged jointly in the commission of a tort or unlawful act that damages the plaintiff that he can recover from one the total damages inflicted by all. It

is necessary, therefore, as said by this court in the Boesch-Graff case, to show that the reduction in prices, etc., "was due *solely* to the acts of the defendant," or, if such reduction in prices, etc., was not due "solely" to the acts of the defendant, then to show "to *what extent* it was due to such acts." If the complainant had to increase its force of traveling men to meet the competition presented by *all* of the infringers, such increase was manifestly not occasioned by one *alone*. But the law is so plain that the complainant must show just how much it had to reduce its prices because of the acts *of the defendants,* just how much its expenses were increased by *their* acts, just what sales it lost through *their* sales, that further discussion of the point is unnecessary.

Finally, before the complainant is entitled to recover as damages the profits which it would have made if it had sold the drills sold by the defendants, it is necessary for it to show approximately what *proportion* of its profits on shoe drills containing the Hoyt invention were secured or received *by reason* of the presence of such invention. This necessity may be thus expressed in the form of a proposition:

Where a patentee manufactures and sells machines containing a patented invention, he must, before he can recover as damages the profits which he would have made if he had sold the machines sold by the defendants, apportion or separate the general profits which result from the manufacture and sale of the machines so as to deduct manufacturer's profits, profits due to other parts and features of the machine, whether patented or unpatented, the profits which he would have realized had he manufactured and sold other machines open to the public and to him, so as to segregate from the general profits the particular profits due to the

presence of his patented invention, and this profit thus obtained, and only this profit, can he recover as damages.

Even, therefore, if the evidence on the part of the complainant is sufficient to satisfy the court that the complainant would have made the sales which the defendants made, yet it is only entitled to nominal damages, because the evidence fails to establish the proportionate amount of the profits realized by the complainant from the manufacture and sale of drills which is to be attributed *specially and particularly* to the presence of the Hoyt invention. The complainant has simply presented testimony to show the amount of its *general* profits on the sale of drills, and this it cannot recover unless the evidence further shows that the *entire* profit which it realized from the sale of drills is attributable to the presence of the Hoyt invention. The application of the doctrines of comparison and apportionment is as imperative in ascertaining the *complainant's* profits as in ascertaining the defendants' profits. where the loss of such profits is presented as a measure of damages. This will be apparent on a study of the decisions allowing a complainant to recover its profits in the form of damages, which have been already cited under the proposition relating to that branch of the discussion. It necessarily follows from the philosophy and reasoning of the courts in the cases cited. Profits are profits, whether realized by the complainant or the defendant, and, in ascertaining the profits due to an *invention*, whether realized by the complainant or the defendant, the same line of calculation and procedure must be followed. The complainant can only recover the profits which the defendant has realized or that the complainant has lost, that are directly and immediately attributable to the patented invention, and to ascertain these we must ascertain and deduct everything attributable to other features, elements or combinations entering into the construction of the machine, whether patented or unpatented, or attributable to other causes, in-

ducements or influences, distinct from the patented feature itself, leading to the sale of machines and the realization of profits.

The complainant in this case has made no attempt to show the profits that it realized over what it would have realized if it had manufactured and sold the same machine equipped with the *coil* spring pressure device, which was open to it the same as to manufacturers of the Van Brunt, the Superior, the Monitor, the Fountain City, or other shoe drills containing coil spring pressure devices. That it could have manufactured and sold such drills and realized profits is evident from the fact that others manufactured and sold such drills successfully and in competition with its drills containing the Hoyt spring pressure device. What it made over what it would have made had it manufactured and sold the same drills with the *coil* spring instead of the Hoyt spring pressure device is the most that it can claim as profits due to the Hoyt invention.

The complainant has likewise failed to apportion its profits so as to give due credit and recognition to the twelve fundamental, essential and indispensable features, arrangements and combinations contained in the Dowagiac drills, pointed out by Mr. Bond and admitted by Mr. Fowle, which it appropriated, as it had a right to do, from the existing art. The complainant has likewise failed to show what would be a fair manufacturer's profit and which cannot be attributable to the presence of the Hoyt invention. In short, it has failed in every way to show the *particular and distinctive* profit that is referable to the presence to the Hoyt spring pressure device when all *other* considerations are excluded. It has, therefore, failed to furnish the court with any proper, tangible, reliable evidence of the net profits, due to the Hoyt invention only, which it would be entitled to recover as damages, if every other objection to such recovery were successfully met and surmounted.

The Dowagiac Accounting Schedules.

The complainant has offered in evidence some elaborate expert calculations and computations intended to show the profits which it made on the manufacture and sale of its Dowagiac drills contained in the Hoyt invention. There are grounds on which the reliability of these computations could, we are satisfied, be successfully attacked. The whole matter, however, is so utterly incompetent and irrelevant to the inquiry involved in this accounting that we consider it not worth while to go into specifications or details of errors and omissions in figuring when we can readily show its total inapplicability. If we give full credence to the calculations and results of the expert accountants the schedules merely show the amount of profits that the complainant made as a *manufacturer* of drills containing the Hoyt invention, and not what it made as a *seller* of such drills. Manifestly the profits of a manufacturer afford no criterion on which to determine the profits of a seller of a machine or other article containing the patented invention. The courts have recognized that the two sets of profits are distinct and dissimilar.

In *Kissinger Iron Co.* v. *Bradford Belting Co.*, 123 Fed. Rep., 93, the United States Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards, after saying that "the defendants were not themselves the *manufacturers* of the coupler," said:

> "Defendants are liable to account for such gains and profits only as accrued to themselves, and not for those which accrued to the manufacturers from whom they bought. *Elizabeth* v. *Pavement Co.*, 97 U. S. 126, 138, 24 L. Ed. 1000; *Root* v. *Railway Co.*, 105 U. S. 189, 202, *et seq.*, 26 L. Ed. 975; *Tilghman* v. *Proctor*, 125 U. S. 136, 144, 146, 148, 8 Sup. Ct. 894, 31 L. Ed. 664; *Coupe* v. *Royer*, 155 U. S. 565, 582, 15 Sup. Ct. 199, 39 L. Ed. 263; *Belknap* v. *Schild*, 161 U. S. 11, 25, 16 Sup. Ct. 443, 40 L. Ed. 599."

Furthermore, the schedules, if we regard them as accurate and reliable, merely show, as we understand them, the amount of profits which the complainant made from the manufacture and sale of its Dowagiac drills, considered as *entire* machines, and without attempting to ascertain and show the particular or specific profits which resulted from the manufacture and sale of such machines that were due to the presence of the Hoyt invention alone, *after* deducting therefrom the proportion that would be attributed to the twelve fundamental and essential features, parts, arrangements, or combinations contained in the drills to which the Hoyt invention was superadded, and without which it would have been absolutely useless, and *after* deducting the profits which the complainant might have made if it had manufactured and sold the same drill with the old and free *coil* spring pressure device instead of the Hoyt invention, which it was free to have done, and which others did, and *after* deducting a proper manufacturer's profit so as to put the complainant on the same plane as the defendants—the plane of merchants buying and selling drills—dealers, and not manufacturers.

Until a segregation of the profits into the parts attributable to the different functions of *manufacturing* and of *selling*, so as to finally ascertain and identify the particular part of the profits which the complainant made as *sellers* of drills, and then sub-dividing such profit until the particular part of the sales profit *due to the presence* of the Hoyt invention was ascertained and identified, the schedules are worthless as a means of showing the complainant's profit to be awarded it in the form of damages on account of lost sales, even if the extent and number of such lost sales had been ascertained. In a word, the schedules are worthless as a means contributing to an ascertainment of the complainant's damages sustained through lost profits, and further

consideration of it would be time wasted. The result of the study of the Accounting Schedules may be thus expressed in a mixed proposition of law and fact:

The profits of a manufacturer are inapplicable to show the profits of a seller. The Dowagiac accounting schedules, if correct, only show the profits of the complainant in its dual capacity of manufacturer and seller of drills. The profits of the complainant, due to manufacturing, are different from its profits due to selling drills. The schedules, furthermore, only show the profits on the whole machine considered as an entirety. They fail to make any deduction on account of the presence of the twelve fundamental and essential features which the complainant's drills contained. They fail to show the special profits attributable to the presence of the Hoyt invention after deducting the profits that the complainant could have made had it manufactured and sold an equal number of non-infringing coil spring pressure drills.

Up to this point we have made no reference to the finding of the United States Circuit Court of Appeals of the Sixth Circuit on the question of damages arising from lost sales. reduction in prices, etc., in the case of the *McSherry Mfg. Co.* v. *Dowagiac Mfg. Co.*, 160 Fed., 948. In that case the court devoted many pages of its opinion to the discussion of the question as to whether damages could be allowed for lost sales in view of the fact that the record showed, as does the record here, that many other drills, infringing and non-infringing, were on sale in the Northwest in competition with the complainant's drills, and in view of the lack of evidence in the record in that case, as there exists a lack in the record here, of a showing of specific instances of lost sales, and only a general insistance that if it had not been for the defendants' infringement the complainant would have made the sales that the defendants made. In discussing the matter the court on page 959, among other things, said:

"It does not follow that appellee would have sold had not appellant company been there, for the Van Brunt and the drills of appelleee's other infringers, and possibly the disc drills, drills of equal or substantially equal merit with appellee's drill, were there and offered, at least so far as the Van Brunt and drills of said other infringers were concerned, at a lower price than appellee's. Indeed, if appellant company had not been there, it would seem to be more likely that the sale would have gone to some one of appellee's other infringers than to appellee, and just as likely that it would have gone to some one of them as to appellee had their prices been the same as appellee's. The existence of this inferior machinery alone in connection with the fact that appellant company's price was much lower than appellee's is sufficient to interfere with one's concluding that all or so many of said purchasers would have bought appellee's drill had not appellant company offered its drill, even though they may have been aware of the existence of appellee's drill and had it been put at them to buy. The existence of the Van Brunt drill alone, without reference to such fact, is sufficient to interfere with one's so concluding. Possibly the existence of the disc drill is also alone sufficient to that end. The existence of the drills of appellee's other infringers, even though they had been offered at appellee's price, is alone sufficient to interfere with one's so concluding."

But without quoting further from this case where the court was dealing with the very state of facts that exists in the record here, we will conclude this branch of the argument by saying that, so far as the question of damages is concerned, the complainant, in view of all the foregoing, is entitled to nominal damages only, because it has failed to show actual damages on any recognized legal ground or the extent and amount of its loss resulting from the acts of the defendants only and not attributable to other causes in whole or in part.

No Liability on Account of Drills Sold in Canada.

Up to this point we have treated the case as though the liability, if any, could be predicated against the defendants on account of *all* the infringing drills sold by them. Some of the drills, however, were not sold in this country but in Canada and are, therefore, entitled to claim an additional ground on which no profits or damages can be recovered on account of them.

As we count the drills enumerated in the complainant's exhibit statement "showing the shoe drills purchased from the McSherry Mfg. Co., of Middletown, Ohio, and sold by the Minnesota Moline Plow Company, with the purchase and selling prices of the same," there were altogether 2,156 McSherry infringing shoe drills sold. To this should be added fifty National drills as per stipulation between the parties. This would make 2,206 infringing drills sold by the Moline defendants. As per the statement above, 132 drills were returned. Mr. Hart, in his examination of the books, however, found that the defendants should be credited with nine additional returned drills. This would make 141 drills returned. Deducting this from the 2,206 drills sold would leave 2,065 infringing drills sold that staid sold.

It appears, however, from the exhibit statement above that 261 of the above drills were sold in Canada and we claim that these should be deducted, leaving only 1,804 drills on account of which the complainant can claim that the Moline defendants are liable.

The drills sold in Canada were actually *sold in Canada* and not in this country. The defendants bought them and shipped them to their branch house at Winnipeg and they were sold in

Canada by the salesmen traveling out from Winnipeg, although it is immaterial from what point they traveled so long as the sales were made in Canada. We asked Mr. Martin about these matters and on page 587 of the Record he testified:

"Q. 130. I notice among the list of purchasers of McSherry drills from the Minnesota Moline Plow Company are a number of parties in Manitoba, Canada; please tell us how those sales were made to these parties in Canada.

"A. They were straight sales, but settled for by cash or by notes at a given time.

"Q. 131. Who effected these sales?

"A. The first year of 1895 and 1896, Thomas Blenkhorn and H. F. Anderson were the salesmen.

"Q. 132. Were the sales made in Canada or here at Minneapolis?

"A. They were made in Canada.

"Q. 133. Your traveling salesman visited them and made the contracts?

"A. Yes.

"Q. 134. At their places of business in Canada?

"A. Yes, sir, and a few of them came to our branch house in Winnipeg and made contracts there."

On page 611 of the Record Mr. Martin further testified about the Canada sales as follows:

"X-Q. 131. Was the Minnesota Moline Plow Company organized as a Canadian corporation, ever?

"A. I think not. I couldnt' tell you.

"X-Q. 132. Not that you ever knew of?

"A. Not that I have any knowledge of.

"X-Q. 133. The McSherry shoe drills that were sold up in the Canadian Northwest, were not sold by any Canadian concern known as the Minnesota Moline Plow Company, were they?

"A. They were sold by the Minnesota Moline Plow Company, the Canadian branch.

"X-Q. 134. Where was that Canadian branch established?

"A. At Winnipeg. It was a branch of this house here.

"X-Q. 135. Did the branch Minnesota Moline Plow Company at Winnipeg deal directly with the McSherry Manufacturing Company?

"A. No, the trade was with the branch house here.

"X-Q. 136. Did the McSherry Manufacturing Company have a Canadian manufactory from which they supplied the goods in Canada?

"A. I don't think so.

"X-Q. 137. None of the goods was shipped from a Canadian plant of the McSherry Manufacturing Company to the Minnesota Moline Plow Company branch at Winnipeg, were they?

"A. No, sir. We shipped all the drills that the Winnipeg house sold from this main house here.

"R-D. Q. 1. In shipping drills from Manitoba from your house here in Minneapolis were they shipped to your house at Winnipeg or directly to the dealers to whom your Winnipeg house had made sales?

"A. They were shipped to the Winnipeg house, and Mr. Anderson sent them out with other goods to the dealers whose contracts he had written under our instructions.

"R-D. Q. 2. Those shipments were made after he had reported sales to you, were they?

"A. They were.

"R-D. Q. 3. And those sales as I understand you were made up there in Manitoba?

"A. They were."

Whether the defendants had a corporation in Canada, or whether they shipped their goods to the branch house in Winnipeg or directly to the purchasers to whom sales were made, or whether the traveling men effecting the sales in Canada were sent out from Winnipeg or from Minneapolis, we regard as wholly immaterial to the question of the defendants' liability for the sales in Canada. A patent confers on the patentee the exclusive right of making, selling and using the patented invention—these three rights—throughout the whole of the United States and their territories. It has no extra territorial force or jurisdiction. Anybody who makes, sells or

uses within the United States or their territories, without authority, infringes the patent. The *purchase* of an infringing article is not prohibited by the patent laws. It is the making, selling or using that are prohibited. By the act of *purchasing* McSherry shoe drills the defendants incurred no liability. It was the act of *selling* that caused the infringement. If they had simply bought them and stored them in their warehouses and kept them they would have committed no infringement and incurred no liability, unless they had acted in *conspiring* with the manufacturers to cause or incite them to infringe. But nothing of this kind is charged or proven. Shipping the goods out of the country beyond the territory of the patent was not an infringement of the patent. Merely shipping an infringing article made by some one else to a place where it can be *lawfully* used is not an infringement. Selling outside of the territory of the patent was not an infringement. The defendants could have made, sold and used in Canada—all three acts—without let or hindrance so far as the Hoyt patent sued on is concerned. So doing would have raised no liability. Doing *one* of the three lawful acts which they might have done in Canada can raise no liability. The whole matter seems so plain that no authorities are necessary. It is preposterous to claim damages against the defendants because of the purchase in the United States of McSherry infringing drills and shipping them out of the country to a place where they could be lawfully sold and used. The fact concerning and the principle governing the drills sold in Canada may be thus expressed as a mixed proposition of law and fact:

Of the 2,065 infringing drills sold by the defendants, 261 were sold in Canada. A United States patent prohibits the manufacture, sale or use of the patented invention in this country—these three acts. The purchase in this country of the patented invention from an infringing manufacturer does not constitute in itself an infringing act—only the manufac-

ture, sale or use is—and the sale, after such purchase, in a foreign country is not an unlawful or infringing act raising liability for damages against the defendants.

Litigation and Findings in Other Cases.

We need to devote but little space to the report of the decision of the court in the case against the McSherry Company in Ohio,—the makers of the Moline defendants' drills. These defendants were not parties to that litigation, had nothing to do with it and are not bound by any findings or conclusions in it. That was a suit against *manufacturers.* This is a suit against *merchants buying and selling drills.* The facts on which we rely were not developed in that suit. The record there was meager, imperfect, incomplete. Here it is full and complete. Although the defendants here, by stipulation printed at the beginning of their record, on page 433, were entitled to adopt any part of the record on accounting in the McSherry case, we found it, after examination and reading, so deficient in a presentation of the facts that we rejected *it in toto* nor made use of a single deposition in it. The finding or decision in a case must be according to the facts established in such case.

The Defendant, Thomas H. Martin, Is Not Liable.

The position of the defendant Martin to the litigation is one which imposes no liability upon him, either for profits or damages. His legal status may be compressed into a proposition of law and of fact, as follows:

The defendant Martin occupied the position or office of business manager for the Moline defendant company, a solvent corporation. There is no evidence to show that he personally was a stockholder in the defendant company or ever

received any profits from the sale of the infringing drills. Nor does the evidence show that the complainant was damaged in any way by the act of the defendant Martin personally. Whatever he did was for and on behalf of the defendant company. No personal liability, either for profits or damages, exists against him.

The position of an officer, manager or superintendent of a corporation has frequently been considered by the courts. We will quote from two or three cases on the Circuit which we think clearly establish the non-liability of the defendant Martin.

In *Boston Woven Hose Co.* v. *Star Rubber Co.*, 40 Fed. Rep., 168, where the individual defendant was secretary of the defendant company and filed a plea, Judge Wales said:

> "There is no evidence that the defendant corporation is insolvent, or that Bell, as an individual, has violated any rights of the complainant; nor does there appear to be any just ground for believing that a decree against the Star Rubber Company alone would not fully protect the complainant in the use of its patent, as far as that object can be obtained by the prosecution of this suit. Under these circumstances, to compel Bell to make separate answer and defense, would only harass him, and unnecessarily increase the costs, without producing any substantial advantage to complainant. A decree for an injunction against the Star Rubber Company would bind its officers and agents, without making them personally parties to the bill, and so also a decree for an account could be made fully operative without their being joined individually as defendants. *Howard* v. *Plow Works*, 35 Fed. Rep. 745. See also, *Nickel Co.* v. *Worthington*, 13 Fed. Rep. 392; *Ambler* v. *Choteau*, 107 U. S. 586, 1 Sup. Ct. Rep. 556; *Lewis* v. *Machinery Co.*, 21 Blatchf. 184, 19 Fed. Rep. 826. The plea is therefore sustained. Let a decree be entered dismissing the bill as to the defendant Bell."

In *Western Electric Co.* v. *Home Telegraph Co.*, 85 Fed. Rep., 661, where the individual defendants were, respectively, president and treasurer of the defendant company, Judge Toulmin said:

> "It is not shown in the evidence that defendants Albert S. Lyons and Adam Glass have in their individual capacity violated any of the complainant's rights, or that they have individually derived any profit or advantage from the patent sued on. No reason is shown why a decree should be rendered against them as individuals. As to them, therefore, the bill is dismissed at complainant's cost. *Howard* v. *Plow Works*, 35 Fed. 743; *Boston Woven Hose Co.* v. *Star Rubber Co.*, 40 Fed. 167; *Consolidated Fastener Co.* v. *Columbia Fastener Co.*, 79 Fed. 795."

Conclusion.

In view of all the foregoing, we submit and insist that the decree should be affirmed and the complainant awarded nominal damages only:

Because it has failed to compare its drills with other drills which the defendants might have sold and dealt in, and to show that they have made profits that they would not have made if they had dealt in such other drills, and the amount of such profits.

Because it has failed to show that the defendants made any profits whatever, inasmuch as net profits on one line of goods, where the defendants dealt in many, cannot be shown by applying to the difference between the purchase price and the selling price the average percentage of total expenses to total sales of all lines of goods.

Because it has failed to apportion the profits which the defendants have made, if any, by reason solely of the presence

of the Hoyt invention after ascertaining and deducting the profits due to the other essential features of the infringing drills.

Because, notwithstanding it has failed to apportion as above, it has also failed to show that the entire value of the whole machine as a marketable article is legally and properly attributable to the Hoyt invention.

Because it has failed to show as damages the amount of profits it has lost, if any, the number of sales it has lost, if any, the amount of reduction in prices it has suffered, if any, the amount or increase in expense it has incurred, if any, due and legally attributable to the defendant's infringement, separate and apart from the infringement of others.

Because it has not shown that it had the capacity to have manufactured and sold all the drills that it did make and sell and those made and sold by the defendants and other sellers of infringing drills, and has failed to show what part of the drills sold by the defendants it would have sold had it not been for the defendant's infringement, even if it had the capacity to have supplied them or some of them.

Because, if it would have made the sales that the defendants made, or some of them, it has failed to show the profits it would have made as a *seller* of drills distinct and apart from the profits it would have made as a *manufacturer* of drills.

Because it has failed to show the profits that it would have made if it had sold the drills made by the defendants, or some of them, which are due to the Hoyt invention alone, after deducting the profits due to other essential features in its drills

and the profits it might have made if it had sold non-infringing coil spring pressure drills.

And because it has failed to show any legal grounds for the recovery of either profits or damages against the defendants.

Respectfully submitted,

THOMAS A. BANNING,
For Respondents.

March, 1913.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, A. D. 1910.

DOWAGIAC MANUFACTURING COMPANY,
Complainant-Petitioner,
vs.
MINNESOTA-MOLINE PLOW COMPANY AND THOMAS H. MARTIN,
Defendants-Respondents.

Petition for Writ of Certiorari.
No. [redacted]

DOWAGIAC MANUFACTURING COMPANY,
Complainant-Petitioner,
vs.
ERNEST F. SMITH AND LUPTO ZIDEKER,
Defendants-Respondents.

Petition for Writ of Certiorari.
No. [redacted]

BRIEF FOR RESPONDENTS.

THOMAS A. BANNING,
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Petition for Writ of Certiorari.

May it please the Court:

In these cases the complainant-petitioner asks for a writ of certiorari directed to the United States Circuit Court of Appeals for the Eighth Circuit, to bring up the records in the above entitled causes for hearing and disposition in this court. The question presented is as to the correctness of the decision of the Circuit Court of Appeals on the question of accounting.

The patent forming the subject-matter of this litigation was No. 446,230, issued February 10, 1891, to Will

F. Hoyt, for an improvement in grain drills. The patent expired February 10, 1908,—nearly three years ago—so that practically nobody, aside from the parties to the suits, is interested in the result of the litigation.

The Hoyt patent sued on was made the subject of a number of suits, as explained in the opinion of the Circuit Court of Appeals. It related simply to an improvement in the means for holding or pressing the furrow opener of shoe grain drills into the ground. The invention was not a pioner one. It took the old and well known shoe grain drill and added a specific improvement to the means for pressing the shoe into the ground. Instead of using weights or coil springs, as had been used prior to the invention, Hoyt adopted a long spring for furnishing the necessary pressure on the shoe. The Court of Appeals, in considering the scope of the invention on the hearing on accounting, quoted from the decisions at length to show that the Hoyt claims were merely for an improvement, and nothing more.

In view of the character of the invention, being, as repeatedly found by the courts, merely for an improvement in an established and well known agricultural implement, the court held that the doctrine of apportionment as laid down in the case of *Garretson* v. *Clark*, 111 U. S., 120, which has been adopted and applied in numerous cases in the Supreme Court and on the Circuit, was applicable to the Hoyt invention, and that as the complainant had made no apportionment, nor indeed, any attempted apportionment, it was entitled to nominal damages only. Without quoting at length from *Garretson* v. *Clark*, we may say that the doctrine of apportionment as enunciated in that and subsequent cases, as we understand it, may be thus stated: Where it appears

that the patented invention is less than the whole machine, the complainant must apportion between it and the features and inventions of others, patented or unpatented, unless he can show that the machine was not usable or salable without the presence of the patented invention.

The Alleged Difference in Decisions.

Counsel for complainant-petitioner insists that the United States Circuit Courts of Appeal for the Sixth and Eighth Circuits are in conflict with each other. The supposed conflict consists in the fact that on the facts of one case a certain rule relating to the determination of profits and damages was held to be inapplicable, while on the facts of the other case, such rule was held to be applicable. As we will presently show, the facts in the two cases were wholly unlike as to the point relied on. As to this point, the facts before the Circuit Court of Appeals for the Sixth Circuit were inadequate—indeed, were entirely lacking—while in the case before the Circuit Court of Appeals for the Eighth Circuit, the facts necessary to invoke the rule or principle of law were carefully and fully established by the defendant and admitted by the complainant's officers—as will be presently pointed out. There was, therefore, lacking identity of records on the essential point of the cases.

Without Identity of Facts There Cannot Be Uniformity of Decisions.

Counsel for complainant-petitioner urges that the writ of certiorari should be allowed in this case in the interests of uniformity of decisions. There can be no conflict of decisions where the facts are essentially different, as they were in the cases before the Circuit Courts of Ap-

peal in the Sixth and Eighth Circuits. When this fact is shown, as it presently will be, there can be no necessity for the granting of the writ, and the defendant-respondents should not be put to the trouble and expense which the granting of the writ must involve.

The Federal Constitution and Laws Not Disregarded.

The decision of the Circuit Court of Appeals for the Eighth Circuit as fully recognizes the rights of a patentee as did the Circuit Court of Appeals for the Sixth Circuit, and has applied the principles and decisions to the facts before it. No doubt, the same conclusion would have been reached by the Circuit Court of Appeals for the Sixth Circuit had the same facts been established in the case before it.

No Underlying Error in the Decision in the Eighth Circuit.

Counsel for the complainant-petitioner insists that the Court of Appeals for the Eighth Circuit failed to consider the combination as an entirety and gave regard to only one of the elements of the combination. We think this is clearly an error. The court considered the entire combination, but pointed out the new thing that Hoyt introduced into the machine, to see how much he really contributed to the machine as a whole. How else can a court consider or measure an inventor's contribution to the art? There was no overruling of the uniform decisions of many courts, as counsel contends, but simply an application of the established principles to the facts of the case before the court.

General Testimony to Establish Damages.

Without considering the extent to which the case of *Suffolk* v. *Hayden*, 3 Wall., 315, quoted at length by complainant, as to the admissibility of general testimony as to the value of an invention, has been qualified by the Supreme Court in the case of *Coupe* v. *Royer*, 155 U. S., 565-581, it is only necessary to say that this court in such latter case held that it was not sufficient "to show the value of this invention to any person using it," on the ground that that would be to find "what the defendants might be shown to have gained from the use of the patented invention," whereas in an inquisition as to profits it is necessary to show what the defendant actually did save or gain to justify a recovery.

No Unlawful Admixture of Goods.

Counsel for complainant-petitioner seeks to convey the impression that there was an unlawful admixture of complainant's goods with those of the defendants. This principle has repeatedly been held inapplicable to patent cases. All that the defendants did was to use the complainant's improvement in their machines. This is exactly the condition that existed in every case where the courts have required the complainant to apportion profits and damages. In these cases, furthermore, as specifically held by Judge Amidon, pages 91-92 of the record, the infringement by these defendants was not *wanton*, and while the defendants in the cases in the Sixth Circuit "were guilty of evasion and misrepresentation," the defendants in these suits "have come forward with perfect frankness, have given a full and complete disclosure, and have met every requirement of open, frank

and honest dealing, that the litigation could require of them." There is, therefore, no possible ground for invoking the doctrine of confusion of goods.

Estimating Damages.

Counsel for complainant-petitioner urges that where the proofs develop all the facts, it is the duty of the court to "estimate" the damages. A court cannot "estimate" damages without established facts. The complainant failed to present such established facts in its proofs—facts to justify and authorize an apportionment of the profits and damages—and so is simply in the condition of every complainant who fails to present proofs to justify a decision in its favor.

The Question of Damages in Addition to Profits and the Admissibility of General Evidence as to Damages Considered in the Third, Fourth and Fifth Paragraphs of the Petition.

In the case of the *McSherry Company* v. *the Dowagiac Company*, involving the Hoyt patent, the question of damages by lost sales, etc., is fully considered by the Circuit Court of Appeals for the Sixth Circuit, beginning at page 950 of Volume 160 Fed. Rep., and running through to page 965, where the court says:

> "Our conclusion, therefore, is that the appellee was not entitled to be allowed damages for profits that it would have made had it sold any of the drills which appellant company sold."

From the above it appears that the Circuit Courts of Appeal for both the Sixth and Eighth Circuits were in entire harmony and accord on the question of damages.

The Seventh Paragraph of the Petition Relates to the Difference of Findings Between the Master in Chancery in these Cases and in the McSherry Case.

The petition, after setting out a history of the litigation, says that Mr. Hitchcock, the Special Master in these cases, differed from the Master in the McSherry case, notwithstanding, as the petition alleges:

> "The evidence was largely the same, and although the report of the Master in the McSherry case had been affirmed by his Honor, Judge Clark."

The weight that is to be attached to the finding of the Special Master in the McSherry case and of Judge Clarke's affirmance or the approval of the same may be inferred from the fact that while they found and allowed profits and damages in the sum of $76,082.70, as appears on page 949 of the decision of the Court of Appeals in the McSherry case, 160 Fed. Rep., the court cut the finding down to $1,729.60. Under these circumstances, the Special Master in these cases is hardly open to criticism for differing with the Special Master and Judge Clark in the McSherry case.

On the Facts of the Respective Cases, There Is No Necessary Conflict of Decisions Between the Circuit Courts of Appeal for the Sixth and Eighth Circuits. There Was a Wide and Material Difference in the Facts Before the Courts.

In order to show that the grain drills in controversy contained many inventions, combinations and essential features over and above the specific spring pressure device introduced into the structure by the Hoyt patent, the defendant-respondents, in taking their proofs in these cases, introduced evidence of such fact, and among

others, the deposition of a patent expert, one Oscar W. Bond, whose deposition will be found beginning at page 749 of the Record. In Q. 11, on page 752, Mr. Bond was asked to analyze the shoe drill, and, as a mechanician, to enumerate the necessary essential or more important features which it must contain as a modern or up-to-date machine, and to refer to patents in the early art, and which had expired prior to the first day of January, 1896, —the date when the infringement began—which would serve as illustrations of the embodiment in the art of such necessary essential and important features. In answer to this inquiry, Mr. Bond analyzed the patented drill and the defendant's drills, and pointed out twelve essential features, arrangements or combinations in the complainant's and defendant's shoe drills, none of which could be removed or dispensed with without destroying the practical, successful or commercial character of the drill. These twelve indispensable combinations, features and arrangements are pointed out by the witness between pages 753 and 763 of the Record, and prior expired patents cited in which they were shown; and in the next succeeding four pages he pointed out that while the *Hoyt* pressure spring or device *could* be dispensed with and the drill remain a practical and commercial one, the twelve features which he had enumerated *could not* be removed or dispensed with without destroying the drill.

The statements and conclusions of the defendant's expert Bond were corroborated by the admissions of the complainant's general agent for the Northwest, a Mr. Swayne, who, on cross-examination, beginning with X-Q. 22, on page 154, and ending with X-Q. 29, on page 155, admitted, in substance, the essential and indispensable character of the various things pointed out as indispensable by the witness Bond. Furthermore, Mr. Fowle, the

complainant's sales manager, in answer to X-Q. 15, on page 1041, admitted the correctness of Mr. Bond's enumeration of essential and indispensable features and combinations. His attention was called explicitly to the enumeration given by the witness Bond, and he said in answer that he had read them through and that, "As applied to the type of grain drills of which the Dowagiac, McSherry and the other machines are examples, as mentioned by Mr. Bond just prior to his first group of essentials, I believe that they are essentials of such a construction." Though Mr. Fowle proceeded to state that he considered that the Hoyt spring pressure device was also an essential.

In view of the testimony on both sides referred to above, facts were established which may be formulated into a proposition as follows:

The complainant's Dowagiac and the defendant's infringing drills were composite machines embodying at least twelve essential and non-dispensable ideas and features, which were old in the art prior to the Hoyt invention, and which furnished the body or foundation for such invention; without these prior ideas and features the Hoyt invention would be useless for any purpose; these prior ideas and features were useful without the presence of the Hoyt invention; and they were free and open to the public at the commencement of the infringement.

After his twelve enumerations of important and essential features and arrangements in shoe drills, when he came to express his conclusion, at the end of his answer, the witness Bond, on page 762 of the Record, said that

> "All of the above combinations were, in my opinion, at one time in the development of the grain drill

art, inventions of a most important and valuable character—not merely mechanical expedients but *inventions* forming proper subjects for good and valid patents at the dates when they were introduced into the art respectively."

Mr. Bond gave the above as his judgment and opinion based upon more than thirty years' experience in dealing with such matters. No witness on the part of the complainant-petitioner expressed any *different* opinion. The affirmative testimony of the defendant's witness Bond, and the admissions of the complainant's witnesses Swayne and Fowle, established the presence, in the infringing drills, of such important, essential and indispensable features and combinations that it became incumbent upon the complainant to offer evidence making an apportionment. The defendants in these cases had made the *prima facie* showing required by the Circuit Court of Appeals for the Sixth Circuit, Judges Lurton, Severens and Richards, in *Canda Bros.* v. *Michigan Malleable Iron Company*, 152 Fed., 181, to the effect that it was incumbent on the defendant in the first instance to establish the presence, in the infringing machine, of other features and inventions that contributed to its utility and value, upon which it became incumbent upon the complainant to offer proof apportioning the profits in accordance with *Garretson* v. *Clark*, and similar cases. The complainant offered no proof, however, to meet the burden thus imposed upon it in these cases.

The complainant-petitioner claims that in its suits against the McSherry Company and the Brennan Company the Circuit Court of Appeals for the Sixth Circuit awarded the complainant all the profits without applying the doctrine of apportionment to the Hoyt patent, 160 Fed. Rep., 948; 162 Fed. Rep., 472. In those cases, however, as appears from the opinions of the court, the de-

fendants had made no such showing of *facts* as have the defendant-respondents here. They did not furnish *affirmative* proof showing the essential features and combinations in the drills in question attributable to *others*, as was done in these cases; nor did they have admissions by the complainant's sales manager and its general agent that such features and combinations were essentials. In short, the defendants in the McSherry and Brennan cases did not make the *necessary showing* required by that court in the Canda case to lay the foundation for the application of the doctrine of apportionment, as appears from the opinions themselves. In the McSherry case the Court of Appeals, at page 950, cites the Canda Bros. case to show the necessity of laying a foundation before the complainant was required to make apportionment, saying:

> "If a patent covers only a particular feature of an article sold by an infringer, the burden is on him in a suit against him to recover the profits received from such sale to show that they were not attributable solely to the patented features thereof, and that it is only in case the infringer sustains this first burden that the second burden rests on the patentee to apportion said profits between such feature and the rest of the article."

And in the Brennan case the court said that

> "The parts of a drill consist of a carrier, a seed box or reservoir, and the seeding apparatus. It is to the latter that the attention of inventors has been principally directed. The carrier and the seed box are old and simple. Of them it is enough to say that no one appears *in this case* to have a patent on them."

Whereas in *these* cases prior patents were produced to show that these features were disclosed to the art years before Hoyt entered the field.

From the above statements of the Court of Appeals of the Sixth Circuit, it is apparent that the defendant pre-

sented no analysis of the Dowagiac and defendant's drills to formulate and point out the *essential* features and combinations which they contained in *addition* to the Hoyt invention, nor patents *showing* such features and combinations, nor showed from the complainant's *own* officers and agents, Mr. Fowle and Mr. Swayne, or others, that such features and combinations *were* essentials, as the defendant-respondents have done in these cases. There were facts and testimony therefore presented to the Court of Appeals in *these* cases that were not before the Court of Appeals of the Sixth Circuit in the McSherry and Brennan cases, which served to distinguish these cases from those, and which imperatively required an application of the doctrine of apportionment in these cases, but not in those. If such evidence were absent in the McSherry and Brennan cases, as clearly appears from the opinions to have been the case, then the complainant in *those* cases could reply on such absence of proof and the non-necessity of making an apportionment. Hence, the decisions in *both* cases could be right and without any conflict whatever.

In addition to the lack of proper *foundation* in the McSherry and Brennan cases to require the complainant to apportion the profits, the Court of Appeals in the Brennan case sought to distinguish the case before them from the Garretson-Clark case, by suggesting that the doctrine of apportionment has no application to a patent for a *combination* of elements such as the Hoyt patent.

With due submission to the learning of the court which pronounced the decision in the McSherry and Brennan cases, we submit that the position of the Court of Appeals of the Eighth Circuit in *these* cases is expressive of the law, and is in accordance with the decisions of the

Supreme and Circuit Courts in other cases, as we will endeavor briefly to show.

First.

The doctrine of apportionment has not been applied *merely* to patents claiming a single device, but as well to patents claiming *combinations* of devices which *included the entire machine*—the very condition which the complainant-petitioner claims to exist with the Hoyt patent, and on which it relies for the non-application of the doctrine of apportionment. This will appear from an examination of many cases.

In *Blake* v. *Robertson*, 94 U. S., 733, the Supreme Court, in 1876, had before them a claim, which they quote on page 729, reading as follows:

> "A combination of a stone breaking machine of upright converging jaws with a revolving shaft, and mechanism imparting a definite reciprocating movement to one of the jaws from the revolving shaft, the whole being and operating as set forth."

It will be noted that the above claim, as stated by the Supreme Court, is for a combination including the entire machine and all of its parts, just as the court in the Brennan case considered the Hoyt claims to be, and yet this court applied the doctrine of apportionment in the following words:

> "Inventions covered by other patents were embraced in those machines. It was not shown how much of the profit was due to those other patents, nor how much of it was manufacturers' profit. The complainant was, therefore, entitled only to nominal damages. This the court gave him. It was all the state of the evidence warranted. It would have been error to give him more."

In *Keystone Mfg. Co.* v. *Adams*, 151 U. S., 147, the Supreme Court, in 1893, had before them a claim, which they quote on page 142, reading as follows:

> "The combination, with a corn sheller, of a series of wings, wheels, or projections, so arranged on a shaft as to revolve in the same direction as the corn is running and so placed relative to the throats as to force into the machine all misplaced or hesitating ears, substantially as specified."

It will be noted that the above claim is for a combination in which a corn sheller forms an integral element of the combination, and which claim covers the entire machine. Yet the Supreme Court, after stating the right of the complainant to a recovery of profits in equity cases, said:

> "It is unnecessary, in this opinion, to review the numerous cases, some at law, others in equity, wherein this court has considered various aspects of this question. It is sufficient to say that the conclusion reached may be briefly stated as follows: It is competent for a complainant, who has established the validity of his patent and proved an infringement, to demand, in equity, an account of the profits actually realized by the defendant from his use of the patented device; that the burden of proof is on the plaintiff; that where the infringed device was a *portion only* of defendant's machine, which embraced inventions covered by patents other than that for the infringement by which the suit was brought, in the absence of proof to show how *much* of that profit was due to such *other* patents, and how much was a manufacturer's profit, the complainant is entitled to nominal damages only. *Seymour* v. *McCormick*, 16 How. 480; *Rubber Co.* v. *Goodyear*, 9 Wall. 788; *Mowry* v. *Whitney*, 14 Wall. 620; *Elizabeth* v. *Pavement Co.*, 97 U. S. 126."

In support of the above, the Supreme Court quoted from *Garretson* v. *Clark* that portion of the opinion which says that "The patentee must in every case give evidence tending to separate or apportion the defend-

ant's profits and the patentee's damages between the patented feature and the unpatented features."

In *McCreary* v. *Pennsylvania Canal Co.*, 141 U. S., 459, the Supreme Court, in 1891, had before them a claim, which they quote on page 460, reading as follows:

> "The combination of the two boats A and B, the steering chain *a* passing around shieves or pulleys, and around the windlass C, or its equivalent, the overhanging guard or bumper on the stern of the forward boat, and the chain D attached to opposite points on the stern of said boat and to the stem or central part of the bow of the rear boat, so as to form a universal joint between them, and keep them coupled and centered, substantially as shown and described."

It will be noted that the above claim is for the combination of the entire machine, consisting of two boats and the means for connecting them together, so that they could be towed in train and navigated or steered as a single boat. It appears that the same patentee had taken out another patent about three months before the patent in suit, and the defendant insisted that the patentee must apportion between the two notwithstanding his claim was for the entire combination. The court, on page 462, says that:

> "The Master found that 'the combination of the patent in suit and that of the prior patent are practically identical in function and result, and are identical in constitution, save only as to the one particular element, the 'centering' device. As, therefore, the combination of the patent in suit is one, the sole invention and novelty of which consisted of a single element, the profit which complainant is entitled to recover from the defendant in this case is that which he may have shown to have accrued to it from the use of substantially that new element in substantially the combination in which he has described and claimed it.' Exception was taken to this finding,

> upon the ground that the finding contained an 'erroneous construction of law, if it means that the complainant is not entitled to recover the entire profits which have accrued to the defendant from the use of boats containing the invention described and claimed in the patent in suit because of anything shown or described, but not claimed, in said prior patent of the complainant, numbered 125,684.' Plaintiff claimed, and offered evidence tending to show, that defendant had made a large sum in 'savings' by the transporation of coal in its infringing double boats in place of single boats, and asked that defendant should be held accountable to him for these savings, less the cost of applying the couplings to the double boats, as its profits from the use of this improvement."

It will be noted that the position of the Master, as stated by the Supreme Court, was that there should be a seggregation or apportionment of the advantages or profits resulting from the change or modification introduced by a *single element* into the combination, although the patentee was claiming the profit on the *entire* machine which he had included in his *combination* claim. The Master and the court below awarded the plaintiff nominal damages only. The Supreme Court, on page 463, said:

> "There is no doubt of the general principle that, in estimating the profits the defendant has made by the use of the plaintiff's device, where such device is a mere improvement upon what was known before, and was open to the defendant to use, the plaintiff is limited to such profits as have arisen from the use of the improvement over what the defendant might have made by the use of that or other devices without such improvements. This is a familiar doctrine announced by this court in a number of cases. *Seymour* v. *McCormick*, 16 How. 480; *Mowry* v. *Whitney*, 14 Wall. 620; *Littlefield* v. *Perry*, 21 Wall. 205; *Elizabeth* v. *Pavement Co.*, 97 U. S. 126; *Garretson* v. *Clark*, 111 U. S. 120. The important question in

this connection is, whether, in considering what was already known, and open to the defendant to use, we are to include the device shown in patent numbered 125,684, issued to Elijah and John McCreary about three months before the patent in suit."

After discussing the matter, the Supreme Court, on page 467, announced their conclusion in affirming the decree, as follows:

> "We think, therefore, that for the purposes of this suit the earlier patent must be deemed open to the defendant, and no damages having been proved for the infringement of the improvement under the later patent, considered separately, the finding of the court below was correct."

In view of the above decisions, to cite no others, where the courts applied the doctrine of apportionment, notwithstanding the claims were in the form of combination claims which included the whole machine to which they respectively belonged, it is plain that no exception should be made to the doctrine of apportionment, on the ground that the claim of a patent under consideration happens to be in the form of a combination claim calling for the entire machine in the enumeration of the parts or elements of the combination.

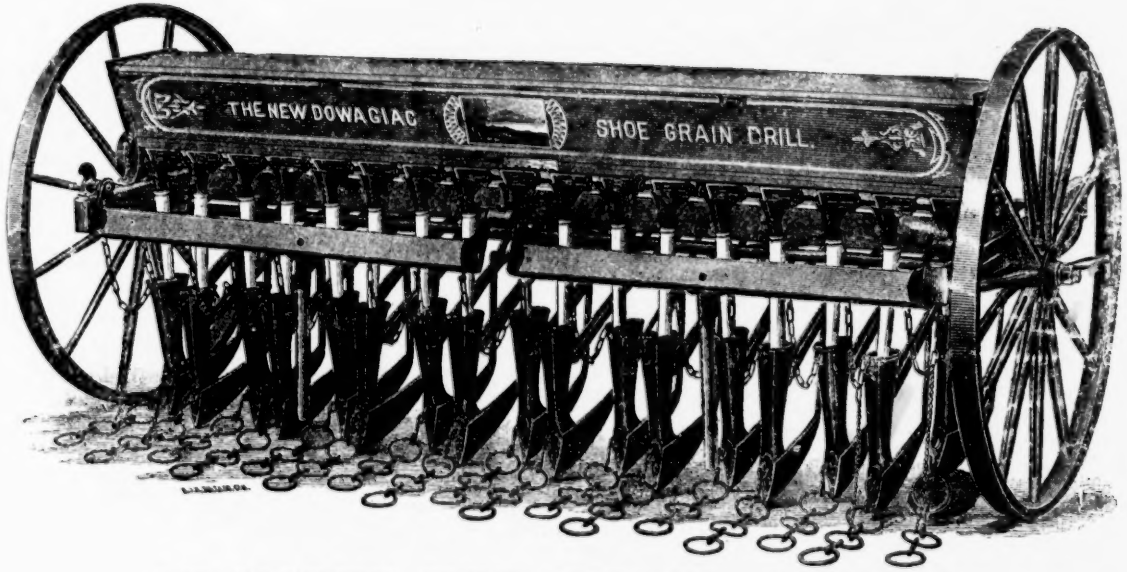
Second.

The course of the Court of Appeals in these cases in applying the doctrine of apportionment to the Hoyt combination claims will be further seen to be correct when we reflect that, if such claims be exempt, all that is necessary for a patentee of some small improvement to do, to avoid the doctrine of apportionment and to recover the entire profits on the complete machine to which his improvement pertains, is to draw his claim in the form of a

combination, so that his claim will enumerate and call for the combination of his device or improvement with the entire machine. In this way a dozen or any number of different inventors of different small improvements, by framing their claims as combination claims including the entire machine, would each be entitled to recover the entire profits made from the manufacture and sale of the entire machine in which the improvement had been incorporated, on the ground that the entire machine was included in the elements of the combination claim.

Third.

As a matter of fact, the claims of the Hoyt patent, no matter how worded, are simply for an *improvement* upon grain drills and are to be treated the same as other claims for improvements, and subjected to the same rules and principles for ascertaining profits and damages arising from their infringement. The decision of the Court of Appeals in these cases, quoting from the decisions sustaining the Hoyt patent, shows that the Hoyt invention was merely an improvement, and we refer to the decision itself as to this point. Counsel for complainant-petitioner tries to avoid the effect of the fact that the Hoyt invention was an improvement on existing grain drills, notwithstanding the patent itself so describes it, and the courts have so held it to be, on the ground that, as he contends, substantially every part of the drill is embraced in the patented combination. In a word, counsel and court were apparently influenced by the *form* or wording of the claim as a combination claim and disregarded the facts as established by the *state of the art* as it existed at the date of the Hoyt invention.



17 SHOES, FOR THREE HORSES.

Complainant's Dowagiac 1888 Shoe Drills which, among others, Hoyt *improved* by adding his spring pressure device.

When Hoyt entered the field *thousands* of shoe grain drills were in use. The complainant *itself* was selling hundreds, and had been for a number of years. All these drills were practical, useful, successful agricultural implements. The frame, the seed box, the force feed, the feed regulator, the feed indicator, the shoes, the means for pressing the shoes into the ground, the means for raising them from the ground for transportation, the size, shape and hang of the shoes, the means for attaching them to the frame and dragging them forward, the tongue, wheels, clutches, levers, conduits—all the parts, elements, devices and fundamentals of shoe grain drills were in use in concrete structures when Hoyt climbed the fence and entered the field of grain drill construction. Indeed, the complainant itself was, and for many years had been, manufacturing and selling a shoe drill like that represented in its 1888 catalogue, of which we here reproduce a cut. The evidence shows that many hundreds of these drills were sold. They were a good drill for their day and generation. Hoyt thought, however, that he could take out one of the parts of the drills as they were generally made and put in a better one—the pressure device for the shoes; and so he took off the weights, or the coil or bar springs, of the existing shoe drills, and in their place substituted his long springs, as described in his patent. This was his action in legal contemplation whether he actually went through the physical performance or not. He then claims this rod spring pressure device in combination with the frame and some of the other parts of the drill as he found it, and his counsel now claims the *whole* structure, because, as he says, substantially every part was embraced in his patented combination, just as if he had invented the whole, instead of having *appropriated* the sum of the work of fifty years of invention in the grain drill art!

As a matter of fact, the *form* of the claim is immaterial. A court of equity looks through form to substance. Robinson on Patents, Section 516, says that "No particular form of words is required for the statement of the claim," and in Section 526 he says that "any form of words may be employed in a claim for a combination, provided it actually describes the real invention." The usual way of claiming an improvement is to claim it in combination with the parts of the machine with which it is incorporated, but this does not change the *fact*, nor make the patentee the inventor of the *existing* machine.

Fourth.

As a matter of fact the Hoyt claims, even most liberally considered, are not for a complete grain drill. Neither of the claims of the Hoyt patent enumerates or calls for the necessary elements and parts that are *required* to make up a *complete* or *operative* drill. If we were to attempt to build a drill containing only the parts of elements mentioned in the first, second and third claims of the Hoyt patent involved in this accounting, several of the necessary and essential features and combinations contained in the Dowagiac drill and defendant's drill, *and without which they could not be operative or sold*, would be found to be lacking. We would have no "seed box and force feed for the grain from the feed box" specified by Mr. Bond as the second essential and indispensable feature to a practical and salable up-to-date grain drill, to the essentiality of which Mr. Fowle of the Dowagiac Company assented. We would have no "seed box and *adjustable* force feed for the grain from the seed box for regulating the amount of grain discharged by the feed" specified by Mr. Bond as the third necessary and essential feature or combination, to the essentiality of which Mr. Fowle assented. We would have no "accurate gauging

of the cups and wheels for the feed and an *indicator* for enabling the operator to readily and quickly change the amount of seed or grain discharged by each cup and feed wheel," to quote the formation in which Mr. Bond defined the fourth necessary element or feature in a practical, modern grain drill, to the essentiality of which Mr. Fowle assented.

But, without following the exact order of Mr. Bond's formulations, there is no mention made in the claims of the Hoyt patent under consideration of the "connection between the seed box and the furrow openers" to prevent the seed from being blown away or prevented from being deposited in the furrow. There would be a shoe, because that is mentioned in the claims, but it is not required by the claims to have "a sharp cuting bottom edge and V-shaped exterior sides with the apex of the V at the bottom" necessary to make a practical and efficient shoe drill. We would have no "coverer following the heel end of the runner for closing the furrow over the deposited or dropped grain or seed" which is essential not only to the operativeness but to the salability of a modern grain drill. We would not have "a plurality of runners," nor "a lift common to all the runners to raise them clear of the ground," nor "a continuous flexible or telescopic connection between the seed box and the boot," not to mention many other things entering into the construction of practical, successful, modern grain drills, as defined by Mr. Bond, and as assented to by Mr. Fowle and Mr. Swayne.

In fact, the Hoyt patent recognizes that the combinations called for in the first, second and third claims are lacking in essential features, and so, in the *additional* three claims of the patent, calls for features not men-

tioned or contained in the first three claims under consideration in this case. For instance, the fourth claim calls for the additional feature of a covering device or means as "A wheel traveling in the path of the shoe," not called for in the first three claims. And in the fifth claim still additional means as "A wheel traveling in the rear of the shoe, said wheel having a spring pressure connection with the spring metal rods leading from the draft rods," not called for in the first three claims. And the sixth claim calls for still additional means and devices. Covering means of some kind are enumerated by Mr. Bond as a part of the combination specified in his twelfth formulation of necessary and essential features and combinations. Mr. Swayne, complainant's general agent for the Northwest, in answering cross-question 25, on page 155, admits that it is essential in the construction of practical and successful shoe drills that there shall be "means for closing or filling the furrows made by the shoe or runner." Furthermore and finally the specification of the Hoyt patent simply purports to be for "improvements *in* grain drills" and nowhere claims to be anything more—much less to be for the entire drill.

It is plain, therefore, that the complainant-petitioner is in error in considering the Hoyt claims as calling for and as inclusive of an entire grain drill instead of merely for some parts to be used *in* a grain drill, parts useless and inoperative by themselves and of no practical utility until incorporated with the essential, indispensable, master inventions of a dozen prior inventors.

In view of the fact that the courts from the beginning have applied the doctrine of apportionment to *combination* claims, including the entire machine, as well as to other kinds of claims; in view of the fact that, if com-

bination claims are to be exempt from the doctrine of apportionment, all that an inventor of a small addition to a valuable existing machine needs to do, in order to entitle himself to the profits on the manufacture and sale of the entire machine, is to claim his improvement *in combination* with the other parts of the machine; in view of the fact that the claims of the Hoyt patent, no matter how worded, are simply for improvements in grain drills, and not for the drills as a newly invented machine then first given to the world; in view of the fact that the combinations described in the Hoyt claims fall short of constituting a complete drill or an operative structure of any kind; in view of the fact that the mere form of the claim—a non-essential thing, something that may be varied, something that the patentee selects and wills—cannot change the settled rules of laws or the actualities of the case; and in view of the fact that the evidence presented by the defendant-respondents showing the presence in the infringing drills of at least twelve essential and non-dispensable features, arrangements and combinations, on which and to which the Hoyt spring pressure device was superimposed, we submit that the Court of Appeals of the Eighth Circuit in deciding these cases was clearly right in holding that the doctrine of apportionment was applicable to the facts before them. If the decision of these cases was *right* on the facts presented, the writ of *certiorari* should not be granted because some other Court of Appeals may have wrongfully decided a case before it; although, in view of the absence of evidence showing the presence of other important, essential and non-indispensable features, it is unnecessary to say that the Court of Appeals was wrong in its decision of the McSherry and Brennan cases, because the defendants there had not complied with the rule laid down in the Canda Bros case, putting the com-

plainant to the necessity of introducing apportioning evidence.

We insist that the Circuit Court of Appeals was not only justified in applying the doctrine of apportionment to the facts of these cases, but, in view of such facts, could not properly have done otherwise. If this is so, the decision in *these* cases is clearly right, and the writ of certiorari should be denied. In short, a case where the decision is *right* should not be ordered up to this court simply because the decision in some *other* case may possibly be *wrong*.

The Decision of the Circuit Court of Appeals in These Cases was Right, Irrespective of the Doctrine of Apportionment.

There were other grounds, however, in these cases on which the decision of the Circuit Court of Appeals for the Eighth Circuit can and should be sustained, and which should be considered on this petition for a certiorari, to determine whether the *decision* of the court was right and should be left undisturbed. We will briefly state these grounds without entering into any extended argument in support of them.

Under the doctrine of comparison announced in *Mowry* v. *Whitney*, 14 Wall., 651; in *Tilghman* v. *Proctor*, 125 U. S., 146; in *McCrary* v. *Pennsylvania Coal Co.*, 141 U. S., 463; and in many other cases in the Supreme and Circuit Courts, in an accounting for savings and profits, where there are other machines or devices which the defendants might have made or sold in place of the patented machine or device, the complainant must make comparison between them to determine the relative savings

or profits arising from the manufacture or sale, and is to be restricted to those savings and profits which the defendant realized by making and selling the patented machine or device over what he might have made by making and selling those which he could lawfully have made or sold. Under this doctrine, the complainant was entitled to recover nothing more than nominal damages, because it offered no evidence making a comparison, or attempted comparison, with other non-infringing drills on the market which the defendants might have bought and sold, of which drills there were a number of different manufacture on the market, provided with coil-spring pressure devices, and which Mr. Fowle, the complainant's sales manager, on page 160, admitted *were not* infringements of the Hoyt patent.

Among those makes of drills which the complainant admitted did not infringe the Hoyt patent were the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, and the Ashurst drills. The evidence established the fact that, beginning with 1889 and ending with 1903, there were sold in the Northwest territory, where the defendants' drills were sold, more than 50,000 shoe drills by three manufacturers alone, not counting a number of others who were selling drills there, none of which were an infringement of the Hoyt patent sued on. The Van Brunt Company sold 23,594 coil-spring, non-infringing pressure drills, the Superior Company sold 9,089; and the Stoddard Manufacturing Company sold 18,326 press shoe drills; making 51,009 shoe drills for these three companies alone. This takes no account of the Tiger, the Fountain City, the Monitor, and the other shoe drills having coil-spring pressure devices that were sold in the Northwest Territory during the period of the infringement.

Complainant's counsel, however, sought to escape the necessity of a comparison with these various shoe drills by offering testimony to show that they contained various patented features secured by patents owned by the manufacturers of them respectively. Inasmuch, however, as the defendants were not manufacturers, but *merchants*, buying and selling drills, we regard it as a matter of indifference that there were patents on subordinate improvements in the drills, inasmuch as the *owners* of the patents were *manufacturing and selling* shoe drills under them — non-infringing shoe drills — and consequently manufacturing and selling as a matter of *right*. Of course, therefore, merchants dealing in shoe drills, as were the defendants, were at perfect liberty *to buy these drills of the manufacturers*, who owned the patents, and to sell them again. They were, therefore, open to the *defendants* in these cases, as dealers in shoe drills, to use—to buy and sell—as a matter of right. Whether a *manufacturer* of shoe drills *other* than the owners of the patent could have manufactured and sold these respective non-infringing drills is a matter of no importance in these cases, so long as the *owners* of the patents were manufacturing and selling them, and so long as they were *open to the defendants* to buy and sell, which they were. This was conceded by the complainant through its sales manager, Mr. Fowle, in the most express and unequivocal terms. We asked him on page 160:

> "X-Q. 13. Did not the makers of the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, the Havana, and the Ashurst shoe drills, make and sell them freely throughout the Northwest without let or hindrance, and to whoever wanted to buy and had the price?
>
> "A. Yes, so far as I know."

Here then it is admitted that the defendants *might* have dealt in these various kinds of non-infringing coil-spring

pressure drills in place of the infringing ones, even though there were patents covering some of their features. They were *free* for the defendants to have bought and sold and dealt in, in place and instead of the infringing drills. The existence of patents covering some of the features of construction contained in these non-infringing drills in no way prevented the defendants from buying them from their *respective manufacturers* who were lawfully making them, and from selling them again in their character of *merchants* dealing in drills.

We have thus drawn a distinction between *manufacturers* of drills, who would not be free to make them by using the patents of others, and *merchants*, as were the defendants, who can buy them from the *lawful* manufacturers, and to whom the existence of patents on them are therefore immaterial. These drills were open to the defendants to use, inasmuch as they were open for them to have lawfully bought and sold; and the doctrine of *comparison* to determine the savings and profits that the defendants made was not only applicable, but was imperatively required, to determine what, if anything, in the way of savings or profits the defendants had realized over what they would have realized if they had bought and sold the Van Brunt, the Superior, the Tiger, the Fountain City, the Monitor, or any of the other non-infringing shoe drills that were being manufactured and sold freely to "whoever wanted to buy and had the price," and of which more than fifty thousand were sold in the Northwest Territory in competition with the drills containing the Hoyt improvement.

But notwithstanding the facts stated above, the complainant offered no testimony to make a comparison showing that the defendants had realized anything whatever in the way of savings or profits by the sale of the

infringing drills over what they would have realized had they bought and sold the non-infringing coil-spring drills that were free and open for them to buy and sell. Under this state of the evidence, irrespective of the doctrine of apportionment and the specific ground on which the Court of Appeals of the Eighth Circuit based its decision, the complainant was entitled to nominal damages only, so that, irrespective of any other grounds, the decision is right and should not be disturbed.

In the McSherry and Brennan cases in the Circuit Court of Appeals for the Sixth Circuit, the defendants were *manufacturers*, instead of merely *mechants* buying and selling drills, so that the distinction above drawn, rendering the existence of patents on some of the features of the non-infringing coil spring drills immaterial, and making the doctrine of comparison imperatively applicable to *these* cases, did not exist in those.

Unanimity of the Findings and Conclusions of Everybody Passing on the Question of Profits and Damages in these Cases.

The findings of the Special Master, Mr. Hitchcock, were affirmed by Judge Amidon in his opinion, beginning at page 88 of the Record. The findings and conclusions of Judge Amidon were approved by Judges Hook, Adams and McPherson in the Court of Appeals, as appears from their decision. Each of the four judges and the Special Master has decided without a dissenting voice that the complainant had not brought itself within the established rules of law entitling it to either profits or damages.

In view of the foregoing, we submit that the petition for a writ of certiorari in these cases should be denied.

THOMAS A. BANNING,
Counsel for Respondents.

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Supreme Court of the United States

OCTOBER TERM, 1912.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
MINNESOTA MOLINE PLOW CO., et al.,
Respondents.
No. 21

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.
No. 22

Reply Brief for Petitioner

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SUPREME COURT OF THE UNITED STATES.

October Term, 1912.

DOWAGIAC MANUFACTURING CO.,
Petitioner,
vs.
MINNESOTA MOLINE PLOW CO., et al.,
Respondents.
No. 212

DOWAGIAC MANUFACTURING Co.,
Petitioner,
vs.
ERNEST F. SMITH and LUPPO W. ZIMMER,
Respondents.
No. 213.

Reply Brief for Petitioner.

Careful consideration of the brief and argument for respondents shows many misapprehensions and much matter, unless it is explained, might mislead in this behalf.

The entire brief overlooked the proposition that general evidence is insisted upon here to establish both the measure of profits and of damages.

We find, opposite page 3, a cut of a seventeen shoe three horse drill, with the statement, "Complainant's Dowagiac 1888 Shoe Drill, which, amongst others, Hoyt improved by adding his spring pressure device."

Now presumably this is shown as the base or with the purpose of establishing a standard of comparison. This particular grain drill has been considered by the expert on behalf of petitioner, Mr. Fowle. He says, at page 1034 of the Record, in answer to question 3, considering these very grain drills,—

> "They would not be salable at any price to cover the actual cost of manufacturing, in any territory where shoe drills are used; although they would do good work in the sandy soil of Southern Michigan, farmers prefer the present construction at the regular price to the weight drills at extremely low price."

And it is stated that in the Northwest where such drills are particularly needed, such a machine could not be sold for ten or fifteen dollars, even.

At page 4 comes the assertion,—"Many prior patents." Now the prior patented structures are not open to be considered as standards of comparison. There is a patent to C. A. Van Brunt No. 412,808, shown opposite page 4.

This patent is hardly fair to be considered, because there is a Van Brunt patent No. 461,292, appearing at page 1283 of the Record, which shows the structure which Mr. Wilcox of that company said was always made. This structure, it will be noted, has an adjustable support for the front end of the draw bars, and their functions are explained by Mr. Wilcox, and the patent says,—R. P. 1284, page 1, beginning at line 80,—

> "By the mechanism above described, **we can change** the angle of the shoes or runners to meet the conditions of the soil, and this without any delay and **without stopping the team.** As an example, trash gathered in front of the runners or shoes could be passed over without lifting the shoes or runners by simply moving the tilting-lever, thus giving the shoes or runners an angle best adapted to ride over the trash. Then, as soon as the obstruction has been cleared, they can be returned to their original position or a position where best results can be obtained."

Mr. Wilcox, in his deposition, says that these goods have always been marked "Patented," see XQ. 54 and answer, page 541 of the Record,—

> "XQ. 54. All of the Van Brunt drills that have been sold have had an adjustable connection at the front end of the shoe draw-bars, have they not, so that they can be raised and lowered?
>
> A. They have a tilting lever."

And it seems from this patent just quoted from that it was the feature of this particular patent, and also that there were patented features appearing in the patent of October 15th, 1889, a cut of which is bound into the brief of respondents. This tilting lever device is made the subject-matter of every one of the ten figures of the drawing of this patent No. 461,292. It is necessary that this be provided in order that trash might be effectively passed. The drill is an independently patented structure.

The Superior shoe drill was also independently patented, and was abandoned by the manufacturers thereof for good reasons. The Superior people adopted disk drill construction. This appears clearly from the testimony of Mr. Packham, the inventor thereof. He testifies at page 535 of the Record, as follows:

> "XQ. 82. Was there any objection to shoe drills which led you to undertake the production of the disk drills?
>
> A. There were many objections to shoe drills in the Northwest during the spring season when the soil was frequently waxy, and even at other times when the soil was dry and covered with standing stubble and loosely rooted, the Northwest machines

being of narrow width between the rows and it being required, especially in dry sections, that the shoes penetrate to the depth of several inches. This fact, together with the narrow width of the rows, caused in operation what I believe was termed by the farmers of the Northwest a **'pillowing'** result; that is, the shoes impacted the soil so tightly between their vertical walls as to cause the **soil and stubble** to push ahead of and bank up or 'pillow' against the breast of the **whole** series. It was thought that if a satisfactory arrangement of disks could be made, it would reduce this tendency to pillow up and push the soil ahead, as was frequently the case with the shoes, and that, instead they would roll over the bank. This was probably the incentive that caused me to experiment and produce the disk drill."

These are therefore independently patented grain drill structures, and not open to the respondents or the public.

In this case it is asserted by petitioner, contrary to the assertion at page 5 of respondent's brief, that there is confusion of the complainant's goods with those of the defendant, and that all possible evidence has been offered to enable the proper consideration of the case, and the awarding of both profits and damages to the complainant-petitioner.

At page 6 is asserted **"General Propositions,"** two of them on which the respondents principally rely. It is first asserted that the **complainant** adopted a wrong standard of comparison. As to this assertion, the complainant-petitioner desires to emphatically state that **complainant has adopted no** standard of comparison whatsoever, because as it views the matter, there is no standard of comparison required in view of the decision of the United

States Circuit Court of Appeals for the Sixth Circuit, and as to the second proposition, as to the apportionment of profits and damages under the facts in the case, it is asserted that there should be no such apportionment.

Petitioner, has, however, been very cautious indeed and has offered evidence as to every unpatented grain drill that it was possible to consider, and particularly the unpatented grain drill illustrated opposite page 3, which was a weight grain drill and is the only unpatented shoe grain drill referred to in the entire Record. This drill was not salable at any profit whatsoever, so that with this grain drill as a standard of comparison, there was no need for any apportionment. Complainant also offered proofs relative to hoe drills, so that comparison can be made in the event that the court should consider apportionment necessary.

Responding to page 7 of the brief, that a wrong standard of comparison was adopted, petitioner asserts that the Circuit Court of Appeals for the Sixth Circuit rightfully held that the entire damage and the entire profit was recoverable and that no apportionment was necessary. This is clearly right, when it is considered that the claim calls for the entire combination, not the mere application of a spring, but a reorganization of the whole structure so that the particular style and form of spring was available to accomplish the purpose, and made the whole machine effective without "pillowing" and without the need of tilting the front end of the shoes, as was done by Van Brunt.

Considering the heading, "Foundation Principles," the foundation principle for construction in this case is that general evidence must be considered, because all proofs possible have been offered. It is not seen that the case of **Coupe vs. Royer, 155 U. S. 582** can be in any way pertinent or material. That case was decided adversely to

the complainant, because there was no adequate showing as to the value of the invention. It was attempted to show the difference between a hand process and a machine process, without in any way showing what advantage had accrued to the patentee by the use of his invention.

Responding to the heading, "Can the complainant recover profits in this case," it is only necessary to refer to Elizabeth vs. The Pavement Company to answer the question, because that case is a case exactly parallel with the case at bar, as referred to and pointed out in the main brief.

On page 9 of respondents' brief comes the heading, "The Doctrine of comparison of profits." The general statement at the bottom of the page is wholly unsupported by reason or authority. It is put forth here to urge that the defendant had the right to handle the **unpatented** structures that were in the market, and in that behalf are urged the cases of **Mowry vs. Whitney, 14 Wall 651, Tilghman vs. Proctor, 125 U. S. 146, and McCreary vs. Penn. Canal Co., 141 U. S. 463,** and various other authorities through to page 21, where occurs the heading, "Application of the doctrine of comparison."

The rule of law in these cases is well stated and well understood. Where an inventor has merely made an addition or an improvement upon an old process that was of itself of value, then it is necessary to measure the advance that he has made, but where he has produced an entirely new device, constituting a combination, making up an entirety, as in this case, then he is entitled to the entire profits and damages under the rule of law laid down in this court in Elizabeth vs. The Pavement Company, and in various other cases. This rule is stated as to this very patent very ably and very thoroughly by Judge Severens in the case of **Brennan vs. Dowagiac, 162 Fed. Rep. 472.** The language is here repeated for convenience, beginning at the bottom of

page 474 of the report, and extending, with parts emphasized by counsel, to the first sentence of the second paragraph, page 476:

> "The fundamental proposition on which the report in respect to the profits rests is that the whole of Hoyt's invention and patent resides in the spring pressure device and does not extend to other parts of the drill. From this he concludes that only this particular of the drill can be considered in estimating the profits, and that all the other parts might be lawfully made and sold by the defendant without any responsibility to the plaintiff. This is a specious argument; but it is not in accord with the established principles of law regarding patents on claims for combinations of several elements, and, when applied in this case, results in a radical error. The claims of the patent in suit are not restricted to single things, but some of them—**the first, for instance**—include the several elements which go to make up the seeding part of a drill, in combination. **It covers them all as one whole.** Every one is made material by including it in the combination. **The spring devices are not thereby patented.** For the purpose of the claim and the patent thereon, they are on the same footing with the other parts of the drill, however old and common they may be. Any one might make and sell each and every part, or any lesser or larger combination of such parts, including the spring device, without infringing the patent, provided, of course, they are not intended to contribute to the making up of the entire combination covered by the patent. But **one part in a combination is no more patented than another. All** in association **are patented**.

The parts of a drill consist of a carrier, a seed box or reservoir, and the seeding apparatus. It is to the latter that the attention of inventors has been principally directed. The carrier and the seed box are old and simple. Of them it is enough to say that no one appears in this case to have any patent on them. It is pertinent to cite what was said by Mr. Justice Grier in Seymour vs. McCormick, 16 How., at page 488, 14 L. Ed. at page 1024:

> 'It must be apparent to the most superficial observer of the immense variety of patents issued every day that there cannot, in the nature of things, be any one rule of damages which will apply equally to all cases. The mode of ascertaining actual damages must necessarily depend on the peculiar nature of the monopoly granted.'

The case here is not a patent for an improvement upon another article, which does not cover that other article, but only the improvement made upon it. The patentee cannot in such case extend his invention over the thing improved, if the latter is patented. If not, he may appropriate it, as others of the public may. The distinction is well illustrated by the improvement of the harvester by adding a driver's seat to an otherwise complete harvester in Seymour vs. McCormick, 16 How. 480, 14 L. Ed. 1024. When, therefore, the defendant sold one of the plaintiff's machines, he sold that which in all its associated parts was covered by the patent; and a Dowagiac drill, without the Hoyt patented combinations, would be but

the fragment of a drill and have no distinctive character. The invention was **not an addition** to an otherwise **complete machine.**

In the cases of Elizabeth vs. Paving Company, 97 U. S. 126, 24 L. Ed. 1000, and Hurlbut vs. Schillinger, 130 U. S. 456, 9 Sup. Ct. 584, 32 L. Ed. 1011, **no doubt the material employed, the blocks, the sand, the gravel, the cement, could have been put down in the usual way in some other fashion,** and have been of some value as a pavement, but not to the extent of excellence that one laid according to the patent would have been. Indeed, the records in both those cases show that **former patents had taught how this might be done.** But the patents then before the court did not adopt some earlier method of paving and **then add an improvement,** but they pointed out a new way of organizing the materials, which was to be substituted for the old way; and the court held in each case that the owner of the patent was entitled to recover the profits made by building the pavement in the new way. In the latter of those cases, Mr. Justice Blatchford, who formulated the rule laid down in Garretson vs. Clark, 111 U. S. 120, 4 Sup. Ct. 291, 28 L. Ed. 371, delivered the opinion, and cited that case. He evidently regarded the language employed in the second alternative of the rule there stated as the statement of a broad principle, which would be applicable to cases not covered by the first."

It appears that the quotation from McCreary vs. Penn. Canal Co., is entirely inappropriate, because the court in concluding its decision said, see the last paragraph in the decision:—

> "We do not wish to be understood as expressing an opinion, whether, if there had been an earlier patent for coupling vessels outstanding at the date of this infringement, and owned by a third person, **defendant could claim that the device described in such patent was open to it. In such case it might perhaps be held that the plaintiff was entitled to stand upon the prima facie validity of the earlier patent; and that presumptively the defendant would be bound to pay a** royalty to the patentee, and, having elected to make use of the plaintiff's invention, would be bound to pay a like royalty to him. This question, however, is not presented in the case under consideration."

Now all of the patents referred to in this record are outstanding patents. They are owned by other third persons, that is, persons other than the petitioner and respondents, and it is insisted that the petitioner has the right, according to the intimation of the court in that case to say, "the defendant would be bound to pay a royalty to the patentee, and having elected to make use of the plaintiff's invention, would be bound to pay a like royalty to him."

This case of the McCreary vs. The Penn. Canal Co. was applied in the case of **Brinton vs. Paxton, 134 Fed. 78,** the particular language appearing on page 81:—

> "The respondents, however, urged that these complainants were not entitled to recover the entire profits thus ascertained, because these infringing pickers Nos. 2 and 3 may be said to be not only infringements upon the complainant's patent, **but are also**

> covered by the sixth claim of patent No. 451,637, issued to Mayo, on October 13, 1891, and the burden is on the complainant to separate the profits attributable to respondents' infringement of the patent in suit from those attributable to the use of the Mayo invention. In other words, they urge that, as they are infringing complainants' and Mayo's patents, the complainants must establish just what part of the profits is attributable to the advantageous features of the complainant's patent and what is derived from the Mayo patent."

There was a full recovery, notwithstanding, the court saying further on, on the same page,—

> "But, aside from the question as to whether or not the respondents' pickers Nos. 2 and 3 **infringe the Mayo patent** as well as that of complainants, there is another objection to this contention of the respondents that they are to be for that reason relieved from a portion of the damages claimed by the complainants, and that is that it has been the uniform practice of the courts to refuse to determine such collateral questions in suits where the validity and scope of a **third** party's patent are not directly put in issue, and this finds direct support in the decision of the Supreme Court in McCreary vs. Pennsylvania Canal Company, 141 U. S. 459, 12 Sup. Ct. 40, 35 L. Ed. 817."

This shows that it is entirely improper to consider the independently patented features manufactured and sold by third parties.

The matter of an independent device, which, of course, the independently patented structures

must be presumed to be, is dwelt upon by this court in **Elizabeth vs. The Pavement Co., 97 U. S. 126-144, 24 L. Ed. 1000,** this court saying, at page 141 as follows:

> "**Equally without foundation** is the position taken by the appellants, **that other pavements,** approaching in resemblance to that of Nicholson, were open to the public, **and that the specific difference between those pavements and Nicholson's was small, and that, therefore, the Nicholson patent was entitled to only a small portion of the profits realized.** Nicholson's pavement, as before said, **was a complete combination in itself, differing from every other pavement. The parts were so correlated to each other from bottom to top, that it required them all,** put together as he put them, to make the complete whole, and to produce the desired result. The foundation impervious to moisture; the blocks arranged in rows; the narrow strips between them for the purposes designated; the filling over those strips, cemented together, as shown by the patent, all were required. **Thus combined and arranged, they made a new thing, like a new chemical compound. It was this thing, and not another, that the people wanted and required.** It was this that the appellants used and, by using, made their profits, **and prevented the appellee from making it. It is not the case of a profit derived from the construction of an old pavement together with a superadded profit derived from adding thereto an improvement** made by Nicholson, but of an **entire profit** derived from the construction of his pavement as an entirety."

This matter of the Pavement case and the case at bar has been put into parallel in a folder in the main brief, showing how perfectly and completely claim 1 of the Hoyt patent in suit compares with either claims 1 and 2 of the pavement patent in the Nicholson case. The particular spring pressure device of the Van Brunt patent is not illustrated there, but other structures are comparable therewith, as Elam and Boggs, and the like. The Packham patent is there. The parallelism of the claim here in suit with the claims in the Pavement Company case shows them to be certainly precisely similar in principle. The organization of the Hoyt patent is entirely different and is a complete entirety in and of itself, like a new chemical compound, substantially as pointed out by Judge Severens in his opinion delivered for the Circuit Court of Appeals for the Sixth Circuit in 162 Federal quoted above.

The folder submitted in the main brief is the same as was submitted to the United States Circuit Court of Appeals for the Sixth Circuit, and the decision in that case, the Brennan case, shows the exact parallel of the Hoyt patent here in suit to the patent in the Pavement case. Respondents do not discuss this important decision, except in a brief paragraph at page 130 of their brief, and no attempt is made to show wherein the Pavement case differs from the case at bar. Further, respondents, in quoting from the decision in the Brennan case, in their discussion of it at pages 78 and 79, omit the extensive discussion of the Pavement case, it being a subject which they seemingly desire to avoid.

It is believed that the authorities referred to entirely dispose of the respondents' theory that an apportionment is necessary in this case.

The application of the doctrine of comparison and the machines free to the respondents to sell

will be considered in conjunction with the heading at page 27, "Distinction between a manufacturer and a merchant." This is practically disposed of and taken care of by pointing out that the **distinction** is only **applicable on the question of recovery of profits** made by the **infringer.** The principle is well settled and stated very clearly and positively in very many decisions, that where the recovery is a recovery of profits made by defendant, it is only the profit made by the particular infringer that can be recovered. Under those circumstances, the manufacturer and the merchant would be on a different footing, because their profits would be different. The argument has no bearing and no force in discussing the question of damage.

The case of **Kissinger-Iron Co. vs. Bradford Belting Co., 123 Fed. 93,** recognizes the difference between profits and damages,—and the court there **says,—**

> "Complainant's rights to recover all **damages** over and above the profit made by **the infringer** cannot be and has not been disputed."

See page 93 of the report, 123 Fed. And the court further said,—

> "But it was **not shown that the damages** exceeded the profits made by the defendant, to say nothing of those made by Gerard & Lawrence. No evidence was introduced to show that complainant's sale or sales had fallen off, so that they had been compelled to reduce the sale price of their coupler, or to increase the cost of doing business. The entire body of the evidence bore upon the question of the gains and **profits made by the defendants,** and the master's report was based solely upon this question."

It is difficult to understand why there should be any discussion about the difference between a manufacturer and a merchant on the question of profits when the rule is so very clear that only the actual profits made can be considered under such circumstances, and not such profits as the defendant ought to have made, or might have made.

The facts are to be considered as pointed out in **Keystone vs. Adams, 151 U. S. 139, 38 L. Ed. 103, 11 Brodix 364.** This court said,—

> "The complainant, to establish the extent of the defendant's profits, called witnesses familiar with cost and selling price of the **Sandwich, Joliet** and **Marseilles** machines, and showed that the profits of **these manufacturers** were on the different sizes of machines made by them and what proportion of these profits were fairly attributable to the defendant's device."

The court concludes its opinion, saying,—

> "In the light of these decisions, there was error in the court below, not in any formal disregard of the rule restricting the plaintiff's recovery to the profits actually realized, but in permitting the plaintiff to prove, not the defendant's profits, **but those realized by other companies.** This was in effect, showing what, in the opinion of the master and the court, 'he might reasonably have made, and not those which he did make.'"

The proposition now urged is that in place of considering what the respondents did on the question of profits, it is necessary to take into consideration what somebody else did. This is truly and

wholly an untenable position. The measure of the profits of the defendant is what the defendant made and not what somebody else made, nor is it necessary to compare the profits that defendant made with the profits that someone else made on something else, because such a thing is pointed out in Keystone vs. Adams as a false standard and does not get at the result of the profit made by the defendant.

The distinction between manufacturer and merchant is very easy. It relates to profits of defendant, and each is responsible for the profits which it made, and that is all that is sought for so far as the question of profits is concerned in this case,—just simply what profits the respondents made. Damage is sought beyond that and general evidence is resorted to.

The various drills referred to at the bottom of page 29 of respondents' brief are independently patented drills and are consequently independent structures, and are not to be compared with those of the complainant-petitioner or the respondents. They are distinct entities, like the different pavements in the Pavement case referred to.

Considering the heading, "Second, the necessity of apportioning is not dependent upon the form of the claim," at page 41. This is entirely true. The form of the claim has nothing to do with whether the thing actually claimed is a true combination or not. Oftentimes claims recite a structure with an addition thereto which is said to be in combination therewith, but that is not true with the case here a bar. Claim 1 recites co-ordinating structures, each and every item of which is old, but there is a new arrangement of the same exactly as there was a new arrangement of the blocks and materials entering into the Nicholson pavement.

This very clearly appears from a comparison with the prior art. There were rod spring struc-

tures on what is known as "press" drills. There were coiled spring pressure drills which had chain lifts. There were various modifications of devices, but there were none of them that presented the organization of the Hoyt patent whereby the runners were effectively guided and supported on their tips, whereby there were long flexible springs that would enable the shoe to pass over obstructions without clogging or "pillowing", and none of these structures had been effective except they were properly disposed and arranged with the carrying wheels, as pointed out and specified in Claim 1. Each and every element there claimed enters into proper relation with the others. The simple addition of one feature, a spring for instance, to the old weight drill of 1888 or '89 would not make the change. It required a reorganization, an adaptation and a proper disposition of the parts, all as pointed out in claim 1, and as stated by Judge Severens in the Brennan case, from which quotation has already been made in this behalf.

It is therefore especially appropriate to say,—"Render to Caesar what belongs to Caesar," in accordance with the heading on page 41 of respondents' brief, because Caesar had produced an entire new grain drill and he is entitled to the entire profits and damage. He had solved a problem that had never been solved before. He put a special solution upon it, produced a structure that was more effective than any other, and it was his combination that the public desired, and that is the reason that the respondent, the Minnesota Moline Plow Company, was so particular to make sure that it got something like the Dowagiac drill, the petitioner's drill being the Dowagiac drill.

The rule is very well stated in **Mowry vs. Whitney,** in which this court said, at about page 651 of 14 Wall,—

> "We cannot assent to such a rule. The question to be determined in this case is, what advantage the defendant derives from using the complainant's invention over what he had in using other processes then open to the public and adequate to enable him to obtain an equally beneficial result."

The thing in question in Mowry vs. Whitney was a process. The advantage of a process is easily measured in this way, yet the result was not to be attained by the manufacture and sale of any article. For that reason the general evidence considered important in Suffolk vs. Hayden is to be considered in this case, rather than any attempt to make this case comparable with the case of Mowry vs. Whitney, which relates to a process and the advantages of such a process over other methods to secure the same results, that is, in that case, to secure a car wheel exactly like the car wheel of the patent.

The proposition introduced at page 43 of respondent's brief is based on a wrong premise, because it starts out,—

> "Where the patented invention is **less** than the whole machine."

Petitioner's patented **invention** here **is the whole machine,** as decided by the Court of Appeals for the Sixth Judicial Circuit. The long line of authorities, therefore, following this assertion does not apply.

At page 50 comes the heading, "Applicability of the Doctrine of Apportionment to this Case," and then follows the discussion of the **twelve essential features referred to** by the respondents' expert Bond. This matter is entirely refuted by the testimony of the petitioner's sales manager, Charles L.

Fowle, who is familiar with the situation. Mr. Bond knew nothing of the grain drill business since his childhood, when broadcast seeders were in use. He had never seen a machine in use in the territory. His twelve essentials referred to are no more essential than the gravel, the block, and the other parts referred to as essential in the Pavement case.

We come then to consider the twelve essential features alleged by the respondents' so-called expert Bond. The first feature starts out, see page 52, **"Carrying wheels."** The paragraph begins at about the middle of the page, and in the paragraph is enumerated also "a seed box." On page 53 comes a second element, which to our surprise, is "a seed box," incidentally provided with a force feed, and the third feaure appears on page 54,—which is "a seed box" and "an adjustable force feed", and the fourth of the twelve features appears at page 55, and is "An accurate gauging of the cups", this being a part of the feed device. The fifth feature appears on page 56 and starts out,—"A seed box * * * and a connection." The sixth feature also appears at page 56, the seventh at page 57, the eighth at page 58, the ninth at page 59, the tenth at page 60, the eleventh and twelfth on page 61, and these are all "A runner" with the exception of the tenth, which is "A plurality of runners," with qualifications.

We are gravely informed that all of these things are essential to a grain drill and should be taken into consideration. This is true. All of these non-dispensable elements are enumerated in the combination of claim 1, and the other elements are there by implication as parts of the machine, because it all relates to a grain drill. They are elements, and indispensable elements just exactly the same as the block, the strips, the gravel and the other materials entering into the Nicholson pavement appearing in the Pavement case are indispen-

sable elements. They are in combination so far as they are essential, and appear in the combination of claim 1, which contains the following elements, as will be observed by tabulating them. By predication the whole matter is a grain drill. Claim 1, itemized and separated into its absolutely essential elements, comprising,—of course, in a grain drill,—
In combination with,

(1) **transporting wheels,**
(2) **frames,**
(3) the **hopper,**
(4) **shoe,** and
(5) **draft rods,** the latter having a pivotal connection with the frame,
(6) the clamping **plates** having **a pivotal connection** with the draft rods,
(7) the **spring metal pressure rods** attached to said plates, said rods **extending rearwardly of the hopper,**
(8) the **forked arm** coupled to said rods,
(9) and **means for raising** and lowering said arms.

Here we have specified in the claim nine indispensable elements, all made use of in a grain drill,—all co-operating and coacting together to produce a successful seeding machine as an entirety, not as an addition to an already operative grain drill, but an organization producing a complete operative entity, a shoe grain drill that will work under the trying conditions of a particular limited territory.

Each part coacts with every other part. The claim necessarily implies and carries with it the seed box D, which is provided with a flexible hose c′, and, of course, the usual seed distributing means. The hopper is the part F sometimes called the boot. To this is secured the shoe, and the term "shoe" has a well-defined meaning, and the particular shoe is illustrated in the drawing. It has an edge, consequently it is V-shaped. The heel is cut away as the preferred form of construction. There are (5)

draft rods, which are the rods that are connected to the shoe and are pivotally connected with the frame. Then comes (6), the clamping plates, which are the connecting means for the long rod springs, and are pivotally connected with the draft rods. The spring metal pressure rods (7) are connected to the clamping plates, and said rods extend rearwardly of the hopper, and to the rear of these parts is the forked arm (8) coupled to the rods, and beyond that are means (9) provided for raising and lowering the arms.

We have thus a complete organization. No part of a grain drill is omitted. There is nothing that is not clearly understood from the description and a consideration of the same. It is very clear, therefore, that there are nine indispensable elements in the complainant's machine according to claim 1. Some other elements are enumerated in claims 2 and 3, these being more particularly detail claims of a little less scope than claim 1, claim 1 being the characteristic claim referred to by Judge Severens in his opinion in the Brennan case.

Let us refer to and consider the said twelve indispensable elements, otherwise known and identified by respondents' so-called expert Bond, as twelve essential features. The first one appears on page 52 and specifies "Carrying wheels." Now the carrying wheels are the transporting wheels, which is element (1) of claim 1 of the patent. The presence of such wheels necessarily implies an axle, and there is also a supporting frame (2) and the other features, including by inference the seed-box referred to therein.

But this feature, No. 1 of Bond, is an incomplete thing that is thus enumerated and is said to be one essential. The features are found to be present in the claim, substantially. There are other things in addition in the combination of claim 1 which make it a full, operative, successful device.

It is asserted by the respondent that these structures are practically present in the seventeen shoe weight grain drill illustrated opposite pages 3 and 98, and we know for an absolute certainty and fact by the statement of a salesman of such devices that that structure could not be sold for more than ten or fifteen dollars, or for so small a sum that it would not pay for the labor and material entering into it.

The second element is "A seed-box and force feed." These are present in the non-salable structure referred to, and also in claim 1, which is to a grain drill, and which specifies the hopper (3), that being of no utility otherwise.

The third alleged indispensable element is "the adjustability" of the second one, and the fourth is the "gauging" of the second one, and the fifth is "A seed box with a connection." The connection is referred to and described in detail in the patent, and the hopper (3) is referred to, showing its connection, as appears in claim 1, and the other parts and features are there by inference. All of the remaining seven of the indispensable elements relate to the "runner." The sixth one says, "A runner having a heel." Sure enough a runner would have a heel, and a drag-bar is specified for it, and we find draft-rods as the fifth element of claim 1.

The seventh indispensable element is also a "runner" which has a sharp cutting bottom edge, precisely what all runners have, "and V-shaped exterior sides", the usual form where you bring such a structure down to an edge.

The eighth indispensable element is also a "runner" and there is specified with it "yielding pressure" acting to allow the runner to rise and fall.

And the ninth indispensable element is referred to as "an adjustable yielding pressure" for the same runner, and the tenth brings attention to the fact

that there should be a "plurality of runners" that are independent. That is a thing made use of and referred to in the patent. The connection referred to as the eleventh indispensable element in connection with the runner for opening the drill is the "continuous flexible or telescopic connection", all implied when the hopper is mentioned, and after the runner is a "coveror," which is not really an indispensable element, because when the shoe cuts a narrow crease in the ground the grain will be retained there, but it is, of course, desirable to have a coveror, and a coveror, particularly a wheel coveror, is specified in the patent in suit.

So we find the twelve indispensable elements number full less than the nine elements of the claims, when it is considered that those nine elements enter into a complete grain drill. We have Mr. Bond's expert opinion that these are all of value in a grain drill. He should not have stopped at this point. He should have included the paint on the outside, because that is really quite indispensible. Otherwise the machine will rot at the end of the first season, and it would have been highly desirable to have put tires on the wheels, and screw-nuts or burs on the axles, and hooks on the whiffletrees, and all that. It is wholly needless to stop at a dozen indispensable elements, seven of which are the shoes with their features, because these features, really indispensable features of every day use, are present in nearly everything about this machine or any other machine anyhow, and were equally present in every block and piece of material that entered into the Nicholson pavement.

The testimony of Mr. Charles L. Fowle begins at record page 1026, and extends on as direct evidence through to page 1041. Mr. Fowle's qualifications appear in his other depositions in the case, see R. P. 157 and 352 for his other depositions, where it appears that he is entirely familiar with

the whole territory where these drills are sold, having worked the same as a salesman before he took the position of general sales manager. To get the drift of his testimony, we quote briefly from the statement at page 1029, but earnestly request that his deposition, beginning at page 1027 be read, because it entirely eliminates the errors of Mr. Bond. He says, at page 1029,—

> "Notwithstanding the essentials as enumerated by Mr. Bond, which are quite common in the construction of grain drills at the time the Dowagiac Manufacturing Company entered the grain drill trade of the Northwest, and during its experience in the development of the shoe drill adapted to the requirements of that region, the fact cannot be questioned that farmers wanted to drill in the grain. That they had tried drills of various makes and kinds within my knowledge and experience, hoe drills, some runner drills of the 'low down' type, one of which met with some favor and had quite a sale through certain years,—the Havana press drill; yet farmers were not successful and needed a grain drill which would do satisfactory work in dry ground, wet ground, hard ground and mellow ground, and keep reasonably free from a large amount of stubble, roots, etc., which is general there because it does not rot between the time it is plowed under in the fall and seeding time in the spring. As stated, the Havana press or runner drill met with some favor along during the years 1887, '88, '89 and '90, so did the Dowagiac shoe drill with only six pound iron weights for pressure on the shoes. But it was not until an adjustable spring pressure was used in connection with the shoe

sufficient to take the entire weight of the drill or any less part of it and to give the shoes the desired and necessary scope upward and downward to follow the uneven surface of the ground and ride over the trash, that grain drills became generally and universally adopted in place of broad cast seeders which had been theretofore used. It mattered little how good and perfect the wheels, axles, frame, tongue, grain box, grain feeds, conducting tubes, covering device and feed must be if not equipped with an efficient pressure for the shoe in that territory, a machine was of little or no value. This statement is not theoretical, but is based on my own personal knowledge obtained from experience in the field during the introduction of grain drills in the Northwest from beginning with 1886 and until they had taken the place of the broadcast seeding machines, eight or nine years later."

Mr. Fowle indicates his experience with such machines, calls them by name as old friends, and states what they will do and what they are worth from actual experience in having sold such machines, and his testimony is not in anyway disputed. He says, in answer to question 3, relative to the structure illustrated opposite pages 3 and 98 of respondents' brief, see R. P. 1034:

"Q. 3. When, so far as you know, were the last of the machines sold, by the Dowagiac Co., or the design put out by Brennan & Co., and state whether or not shoe drills of that design, as it was improved up to the time you speak of, would be salable at the present time?

A. The last shoe drills made by the Dowagiac Mfg. Co., with **weight** pressure and **without spring** pressure for the shoes, was in 1889. They would not be **salable at any price to cover the actual cost of manufacturing,** in any territory where shoe drills are used now; although they would do good work in the sandy soil of Southern Michigan, farmers prefer the present construction at the regular price to the weight drills at extremely low price. In the Northwest, I believe that a four-horse shoe drill with weights, such as the Dowagiac Co. sold in 1886 to 1889 inclusive, could not be sold at auction for more than $10.00 or $15.00 if it could be sold at any price. As to the Brennan, Taylor and Lyman shoe drill structure shown in patent No. 193,075, I am not certain just what year it was introduced in the Northwest, but it was between 1890 and 1895, and I think it was 1892. It was the year before their rod spring pressure infringement of the Hoyt patent was introduced and sold. **This structure has not been in the Northwest since.** I do not know whether the manufacture of it has been discontinued or not, but am very certain that it would not be favorable now in the market, especially in the Northwest states."

And as to experience with other patents illustrated, he states his observation in answer to question 4, as follows:

"A. **None,** unless the seeding devices in use on some of the drills made and sold during the infringing period embody the principles or some of the principles shown in the Marsh patent of May 14, 1861, or the

> Smith & Thomas patent of February 12, 1878; and none of the drills marketed and sold during the infringing period used either of these feeds as shown and described. I have never seen a drill feed built as shown by the McSherry patent of December 13, 1864, having spiral shaped threads or corrugations on the feed roller, and do not think they have been built within my experience in grain drills, that is, since 1880."

His entire deposition should be read, however, if this subject is to be read to secure a full understanding. It shows that the Dowagiac drill was the drill for the territory, and that the Dowagiac is a true combination whereby the pressure is effectively secured and a grain drill produced that will effectively operate under the trying conditions of the Northwest. The essentials referred to in respondents' brief are all present in combination and co-related together in the combination claimed in claim 1 of the Hoyt patent in suit, and their relations are such that an effective, complete, unitary structure, like a new chemical compound, is produced in the form of an effective grain drill seeding machine.

Petitioner has endeavored to make clear that the elements of the combination claimed are all essentials, and that they are really all essential appears clear from the fact that the defendant-respondent has not been able to escape infringement.

If there had been any dispensable element, certainly that would have been dispensed with. From this it is clear that the quotation from the testimony of petitioner's witness Swayne, at page 63 of respondents' brief, clearly confirms the proposition that the elements of the combination are all essential, and it is pointed out that they co-relate, the one with the other, and that in certain conditions a fur-

row closer is necessary, but a furrow closer is a common device used in grain drills generally. Its presence or absence is not cause for remark.

The quotation from the testimony of Mr. Fowle, referred to at page 65 of respondents' brief, where part of the answer to XQ. 15 is quoted, is very unfair. The full answer is here quoted so that it will be very clear that the witness did not approve, in the sense that counsel contends, the statements of Mr. Bond. The witness Fowle is an expert in these matters and he would hardly confirm the statements of such an inexperienced person as Mr. Bond. The answer quoted is as follows:

> "A. I have read them through. As applied to the type of grain drills of which the Dowagiac, McSherry and the other machines are examples as mentioned by Mr. Bond just prior to his first group of essentials, I believe that they are essentials of such a construction; but I believe and what I tried to make clear in my direct evidence, was that such a grain drill might embody all of those essential features and still be useless in some localities under certain conditions; that such is true as to the situation in the Northwest, and that the attempted use of drills embodying those features did not result in their adoption, and that it required still more than those enumerated essential features to make a shoe grain drill sufficiently operative and successful to cause the farmers to lay aside the machines which they had been using for many years and buy a shoe drill. It required a drill having those features named and not only the yielding spring pressure applied to the shoe, but a yielding spring pressure of unusual latitude in its range of action without objectionable

features to make an entirely successful grain drill for general use there."

Very clearly Mr. Fowle does not agree with Mr. Bond in any statement of facts that would support the conclusion advanced by respondents' counsel. We protest that the quotation in respondents' brief is very incomplete, and does not fairly show the matter.

The twelve essentials referred to are merely the elements and their necessary attributes which enter into the combination constituting the structure of Claim 1 of complainant's patent. It is a true combination and comprises substantially the entire grain drill. Certainly all the essential working parts are there in combination, and, therefore, there is no occasion for any apportionment of the profits and damages. The removal of any of the twelve enumerated essentials would be substantially the dropping of an element from the combination claim. This shows how related the parts are and how truly they constitute a perfect combination.

A reading of the decision of the Court of Appeals in the Brennan case will show that that court has considered substantially the same facts as here brought out. We call attention to the fact that the alleged complete quotation of the Court of Appeals for the Sixth Circuit to show its reasoning is very incomplete. It shows how studiously the respondents avoid any consideration of the Pavement case in this behalf. To make that quotation complete, there should be inserted before the beginning of the fragment of the last paragraph, on page 79 of respondents' brief, the following. There is a break there indicated by three small periods, very inconspicuously. At the break occurs the statement as follows:

"In the case of **Elizabeth vs. The Pavement Co.,** 97 U. S. 126, 24 L. Ed. 1000, and Hurlbut vs. Schillinger, 130 U. S. 456, 9 Sup. Ct. Report 584, 32 L. Ed. 1011, no doubt the material employed, the **blocks,** the **sand,** the **gravel,** the **cement,** could have been put down in the usual way in some other fashion, and have been of some value as a pavement, but not to the extent of excellence that one laid according to the patent would have been. Indeed, the records in both those cases show that former patents had taught how this might be done. But the patents then before the court **did not** adopt some earlier method of paving and then **add an improvement,** but they pointed out a **new way of organizing the materials,** which was to be substituted for the old way; and the court held in each case that the owner of the patent was entitled to recover the profits made by building the pavement in the new way. In the latter of those cases Mr. Justice Blatchford, who formulated the rule laid down in Garretson vs. Clark, 111 U. S. 120, 4 Sup. Ct. 291, 28 L. Ed. 371, delivered the opinion, and cited that case. He evidently regarded the language employed in the second alternative of the rule there stated as the statement of a broad principle, which would be applicable to cases not covered by the first.

We therefore think that the plaintiff was entitled to recover the profits made on the infringing machines. * * *"

And the court then points out further reasons for adopting the view in the Brennan case. These are matters, however, that the respondents seek to avoid, and have not indulged in any discussion of in

the entire brief of 240 pages. From the fact that they have filed a brief of some 240 pages, it would seem that they were seeking to bury the issue here in mere words.

After thus quoting that decision in the Brennan case, and omitting to quote that part which this court quoted with approval in Westinghouse vs. Wagner, we find a statement of **four reasons why the decision of the Sixth Circuit was erroneous.** They are numbered, first reason at page 81, second reason at page 87, third reason at page 91, and fourth reason at page 99.

As to the **first reason** where the decision of the Sixth Circuit was erroneous, numerous decisions are referred to to support the proposition that the doctrine of apportionment has not been applied merely to patents claiming a single device, but as well to patents claiming combinations of devices which included the entire machine. The interpretation of **Blake vs. Robertson, 94 U. S. 733** is wholly erroneous. The court in reaching its conclusion said:

> "**But** inventions **covered by other patents** were embraced in those machines."

This comment follows the statement,—and the first word of the clause is **"But" not "the",—**

> "The complainant made a profit of $40 an inch on the width of the jaws of numerous machines he had sold.
>
> But inventions covered by other patents were embraced in those machines."

Had there been only the structure of the Blake claim, it seems to follow that the court considered that the complainant would have been entitled to a recovery of the full amount.

The case of **Keystone vs. Adams** does not apply, because, referring to the report, 151 U. S. 139-149, at page 143 occurs the statement:

> "This invention relates to an improvement upon the corn sheller patented by Augustus Adams, as described in his Letters Patent No. 54,659, dated May 15, 1866."

The patent in question was a patent to Henry A. Adams in 1872. We therefore note that it is an addition or improvement to an old structure. That is not the case with the patent here in suit, which is a complete, whole, new organization.

In **McCreary vs. Penn. Canal Co.**, 141 U. S. 459, this court said:

> "In the patent numbered 129,844 the patentee stated that his improvement upon the prior patent consisted 'in substituting for the projecting cutwater and notch described in said patent for centering the boats together and forming a universal joint, a chain attached at both ends to one boat, and at its center to a central point on the adjacent end of the other boat,' etc."

This shows distinctly that the invention was a mere improvement over the earlier patent.The attempt was to recover damages as though both patents had been infringed. As the second patent was an improvement on the earlier patent, very clearly it was only proper to recover as to the improvement and not as to both patents. Therefore the decision of McCreary vs. The Canal Co. has no application and does not show reason why the decision of the Court of Appeals for the Sixth Circuit was erroneous in any degree whatsoever.

The decision of Judge Brown, afterward Justice Brown, in **Maier vs. Brown, 17 Fed Rep. 736,** is very misleading. The court says, at page 737,—

> "The difficulty is in the application of this principle. Thus, if one discovers a new composition of matter, such as gun-cotton, nytroglycerine, or vulcanized rubber, or **invents some new machine,** such as a telescope, or some new article of manufacture, such as barbed wire, or a new pavement, he would obviously be entitled to damages arising from the manufacture and sale of the entire article."

Then follows the statement,—

> "Upon the other hand if his invention were limited to some particular part of a large machine, such as a cut-off of an engine, the axle of a wagon, or the seat upon a mowing machine, it is equally clear that his recovery must be limited to such profits as arise from the manufacture and sale of the patented feature."

And there is quoted in support of the proposition various Supreme Court cases. The court then says,—

> "In the case under consideration, the master took the view that the plaintiff was the inventor of a rustic trunk in its entirety, an article complete in itself, differing from anything else in use before, and depending for its value upon the patented feature. * * * The invention is described as a rustic trunk, but in fact it consists of nothing more than attaching to an ordinary frame,

> strips of wood laid in close proximity to each other at right angles to the grain of the trunk, thereby increasing its strength, durability and beauty, and diminishing to some extent the cost of its manufacture. These slats (for they were all that was claimed as new), composed but a small part of the entire trunk and took the place only of an ordinary leather covering. There was still the frame, the lock, hinges, catches, lining, trays, boxes, and interior decorations unaffected by the patent. We are bound to infer there was a profit upon the manufacture and sale of these as well as the plaintiff's attachment."

Thus it is clear that the decision in **Maier vs. Brown** is to an entirely different proposition, and has no force to establish the proposition that the decision of the Court of Appeals for the Sixth Circuit was erroneous.

The reference to **Hunt vs. Cassidy, 53 Fed. 257,** is wholly irrelevant. As pointed out by the court there, the proofs were to a license fee, and there is no license fee here, and the license fee was to two features and only one was used by the defendant. It would certainly be "wearisome to further multiply such instances" as these, and with this statement occurring at the top of page 87, petitioner most heartily agrees.

Considering now the alleged **second reason** why the decision of the Court of Appeals for the Sixth Circuit was erroneous. It is there asserted,—

> "The error of the court in the Brennan case, in exempting **combination** claims from the doctrine of apportionment, will be further manifest * * *"

Petitioner is constrained to remonstrate that this is dealing with words and not with structures. If an invention is a true combination it matters not how it may be described, the result will be the same thing when you are through with your description of it. A combination will appear as a combination, no matter how described. If it is but an addition to some old thing, it will make no difference whether it is recited to be in combination with the old thing, it will be a simple addition just the same. We have here a different proposition to consider, in that certain prior patents are brought in for consideration.

We have at page 88 of respondents' brief a reference to the Packham patent No. 429,320, of June 30, 1890, see R. P. 1242. Frank R. Packham, the patentee of this patent, was on the witness stand, and at page 535 of the record says,—in answer to XQ. 82 already quoted,—

> "There were many objections to shoe drills."

He enumerates them, mentioning the "pillowing" and says,—see the last of his answer,—

> "This is probably the incentive that caused me to experiment and produce the disk drill."

The Packham shoe drill went out of business immediately when the Dowagiac drill appeared. Surely the petitioner ought not to be called upon to compare its machine with this independently patented structure that went out of business. Packham could not make it go and adopted and improved the disk drills.

The next is the Van Brunt patent, No. 461,292. A claim is quoted therefrom, which says,—

"* * * a means for tilting the runner during the operation of the machine independent of the ordinary lifting device, * *".

This shows an independent and distinct combination from that of the complainant's patent and is the feature of the Van Brunt drill.

The Howard patent, No. 488,072, of Dec. 13, 1892, appearing at page 1220, was never in use so far as the record shows to any great extent. It is not seen how a consideration of this independent patent, issued subsequent to the date of the patent in suit on an application filed subsequent thereto, can have any bearing as to whether complainant's patent is to a good and true combination or not.

This same remark applies to the Van Brunt patent, No. 490,728, and the earlier Van Brunt patent referred to is in the same category, for that matter, only the structure of the earlier Van Brunt patent was marketed in the territory. That of the later structure does not appear to have been marketed. These claims relate to independently patented combinations.

The Edwards patent, No. 672,476, issued April 23, 1901, see R. P. 1192, was applied for October 3, 1900, and the fact that it was an independently patented structure thus appears. These patents on these independent combinations certainly can have no bearing on the question of any mistakes having been made by the Circuit Court of Appeals for the Sixth Circuit. It shows that there were independently patented grain drills, or at least independent patents, because it does not appear whether any of the grain drills ever existed aside from the Packham and Van Brunt, as to which full explanations have already been made.

As to the third reason, why the Circuit Court

of Appeals for the Sixth Circuit erred, it is asserted at page 91 of respondents' brief that the Hoyt patent, no matter how worded, is simply for an improvment upon grain drills. The fact has been so many times pointed out that the claims are to true combinations that it seems hardly necessary to repeat the discussion here. The relations of the parts are pointed out in the claims. It is not the mere addition of a spring device to something earlier, but the whole structure was reorganized, and we believe the statement made by Judge Severens in the Brennan case was entirely accurate and justified,—that the combination is a true combination of old elements, and that any part of the grain drill that is not included in the combination would be a mere fragment.

The law as to independently patented structures has already been pointed out and considered in conjunction with the Pavement case.

Attention is again brought to the illustration of the weight shoe drill opposite page 98, which has already been explained and referred to by the witness Fowle.

It seems too clear for any discussion that the Hoyt patent is to a combination patent. The fact that it recites an improvement or something of that kind, is of no consequence if it is to a true combination, because a reference to the Pavement case shows that the Nicholson patent is referred to as an improvement. The recitation of the Nicholson patent is "The Nicholson Improved Wooden Pavement." This court says, in the Pavement case, 97 U. S. at page 128, quoting from the Nicholson patent,

> "I claim as an **improvement in the art of constructing pavements.**"

If we are to rely on language, the structure of

the Nicholson patent is a mere improvement. It is true that there are other pavements, and that this is a combination. That is the position stated by the Court of Appeals for the Sixth Circuit. It is very clear that the court made no error when the decision of this court in the Pavement case is taken into consideration.

The **fourth reason** is hardly up for consideration. It seems to go to the validity of the claims, and that has been determined and is not open for discussion here. The claims have been held valid by all the courts, and it is very clear what they point out, and Judge Severens' statement relative to the same is very clear, indeed. It will not be necessary to repeat it here, and the decision of Judge Severens in this case has met the approval of this court, and is referred to and quoted quite at length in the case of **Westinghouse vs. Wagner, 225 U. S. 604-623.** Certainly there is nothing worthy of consideration in the discussion of these four reasons why the Court of Appeals for the Sixth Circuit is in error.

We have the heading, at page 102, "Reasons why apportionment in this case should be required." This will not be discussed at length, because the subject matter already discussed covers the ground. The master seems to recognize some force in the virtues of the structure, because he says, quoting at page 104 of the respondents' brief,---

> "An examination of the testimony of the experts called by both parties in these cases will reveal the fact that practically all of it relates to the **spring pressure device.** And there is every reason why it should, for the spring pressure device of the Hoyt patent is the very life of this litigation."

The spring pressure enters into the Hoyt structure. There is a special arrangement and combination of the parts whereby the result is effectively accomplished. The "pillowing" is avoided. The tilting of the front ends of the draw bars is avoided. A new structure has been produced, operating in a new way to produce a very valuable result. To paraphrase the decision in the Pavement case, "It was the thing sought for."

The Dowagiac Structure, or something very similar, was the thing sought for by respondents.

It appears that the Dowagiac structure was the thing sought for by the respondent, the Minnesota Moline Plow Company, and this evidence is persuasive as to the thing sought for by others from the correspondence referred to. There is the letter of Martin, the manager of the Minnesota Moline Plow Company, to the McSherry Company. Letter from the McSherry Company to the Minnesota Moline Plow Company, October 19, 1895, in which the McSherry Company says,—

> "We use **pressure similar to that of the Dowagiac** and have used this pressure on our shoe drills for three or four years very successfully."

And we find on October 21, 1895, the letter to the McSherry Mfg. Co., see page 570 of the Record, where the Minnesota Moline Plow Co., by T. H. Martin, manager, says,—

> "Our **strongest competitor** here is the **Dowagiac** drill, and if you have something embodying some of same features, **it would enhance your prospect for a deal with us,** provided, of course, that the prices were in

line with the other drills we have been offered."

The witness Martin says that Eichelberg volunteered the information,—see his answer to Q. 78, R. P. 571,—

> "They had made a drill for four years that was very suitable for this trade and volunteered the information that they had a spring and spring pressure somewhat similar to the Dowagiac."

It is submitted that as soon as the respondent knew that it was dealing with the pure gold, so to speak, the only thing left for negotiation was details, and thus the correspondence shows.

A circular of the respondent appears at R. P. 559 and the spring pressure is put at the head, and there is recited in a way the spring pressure structure:

> "The pressure is applied by means of a lever that is in convenient reach of the operator, and while the pressure is applied on all of the shoes at one time, they have an independent movement, up and down, to pass over obstructions or drop into depressions, so that a perfect job of seeding can be done with this drill in any ground that is adapted to the use of a shoe or runner drill."

And while they open up with the story about the spring, they also close the story with the spring, for at page 561 we find:

> "The springs are made long and are of the best oiled tempered spring steel, allowing them to hold pressure when the runners drop into depressions, and also allow the

runners or shoes to rise up in passing over obstructions.

The shoes are made of steel and of proper length to insure satisfactory work in trashy ground, but at the same time are not too long."

The pressure means of the Dowagiac was the life of the drill, as stated by the Master, and it was brought about by the peculiar and special combinations recited in claim 1 especially of the Hoyt patent, which was referred to with approval by Judge Severens in his opinion in the Brennan case.

Mr. William H. Taylor, an officer of the respondent company, testifies in answer to Q. 14, see R. P. 168:

"My judgment would be that the **Dowagiac has the best sale.**"

It is therefore very clear that the respondent, in appropriating the Dowagiac drill, did so deliberately. It saw its competitor had a patented drill that was the **best seller.** It frankly told the people it was dealing with that if they had something like the Dowagiac their chances of doing business were enhanced. We therefore see that the respondent well knew what it was doing. It was not seeking a mere spring pressure device, but was **seeking something like the Dowagiac,** and it got it, according to the decree of this court.

Responding to the heading, "Complainant has not shown any net profits from sale of drills," appearing at page 115 of respondent's brief, it is urged that it appears from the foregoing correspondence that the defendants are guilty of deliberate trespass and infringement. There is a stipulation on pages 173 and 174 of the record, which shows the percentage of total expenses and sales,

as shown by the books of the Minnesota Moline Plow Company, for the years ending June 30, 1896, to 1901 inclusive. The stipulation recites at R. P. 173 that the annexed statement may be added as a part of the statement of sales and expenses, indicating proportions of **total** expenses to the **total** sales for the different years indicated. The purpose of this was to fix the very figure, without further computation, which the respondents now say is not established.

The figures in the Smith & Zimmer case were worked out by the expert and appear in the statement in the main brief. The total expenses and the total sales are thus given. There is no way of otherwise apportioning, as appears from this statement of the expert witness Hart. This is the reason for the stipulation. The respondent ought not to be allowed to vary its stipulation or to attack it, as it has done in the brief. These are items that have been put into its general statement of account, according to Rule 79, which it failed to put in.

On the question of damages and for the purpose of getting at an apportionment, the Dowagiac Manufacturing Company prepared what is known as The Dowagiac Accounting Schedules, beginning at R. P. 1053, of its own affairs. This has been held to be eminently proper, in the decision in **Suffolk vs. Hayden,** 3 Wall. 315. It is strange to see that proposition attacked by a reference to **Manufacturing Co. vs. Adams,** 151 U. S. 139, at page 125 of respondents' brief. It is highly proper to show the advantages to the complainant, and the accounting schedules are as complete as it is possible for them to be made, of the complainant's affairs.

Responding to statement of the brief, page 120 to 129, the complainant-petitioner has adduced every particle of evidence that it was possible to adduce on this subject. It has not resorted to the conjectures of experts, but has shown all the facts,

and under those circumstances, considering the case of **Suffolk vs. Hayden** and **McKeever vs. United States,** it is the duty of the court to reach a conclusion and do justice as well as may be, between the parties, and see to it that the guilty party is punished and that the innocent does not suffer damage because of the wrongful act of the guilty. If loss must fall on either, it ought to fall upon the guilty party.

The proposition advanced at page 134 of the brief, that the Hoyt patent claims are not to a complete grain drill, is utterly refuted by a consideration of the claims in comparison with the art and with the various other drills in the case. The Court of Appeals for the Sixth Circuit was certainly right when it held that the Hoyt patent was for a true combination constituting a complete new article like a new chemical compound, and it was right in following the Pavement case in that behalf, as was clearly pointed out by Judge Severens in the decision in the Brennan case.

The complainant is clearly entitled to all of the profits on the grain drill and all the testimony possible has been adduced to show what the profits are.

On the question of damages, the discussion of which begins at page 137 of respondents' brief, the case is equally clear.

Considering the question as to whether the complainant can recover damages in the case, the heading at page 137 of respondents' brief, it seems very clear that the complainant can recover such damage. It has offered full proofs on the entire subject of damages. It has recognized that there are no presumptions, and it has followed the rule that where there is no established license and where the complainant has depended upon the manufacture and sale of its goods, general evidence must be resorted to under the rule of Suffolk vs.

Hayden and McKeever vs. United States to determine what that damage is, and the proofs here are absolutely full and complete as to the situation so far as the complainant is concerned.

The Dowagiac Schedules show absolutely everything that the complainant has done. They show their profits made on an unpatented hoe grain drill of the same size and dimension and grade of the patented drill, so that if there is a standard of comparison necessary, absolutely a standard that is in existence is made use of. It has stated fully all of the facts and circumstances. On two different seasons it appears that they ran short at the close of the season without sufficient goods to deliver and that fact appears. But it is only for those two seasons, and it appears also that during those two seasons it could have employed many more men and likely would have done so had its right not been interfered with by trespassers. All of these facts are taken into consideration and brought out and absolutely every fact that can be necessary to consider has been brought to the atention of the court.

The complainant has not adopted any false theory that it would be able to show absolutely from the words of the purchasers of the defendants' drills that they would have bought the complainant's if defendants' drills had not been present, but it has shown the facts, a horde of dealers and farmers having been called. Complainant has shown that the defendants' bought a structure **like the Dowagiac because the Dowagiac was the strongest in the market,** and complainant has also shown that the Dowagiac was a combination constituting an entirety as distinguished from a mere attachment to a grain drill, and consequently submits that the question of apportionment does not arise, but if it does arise, the best standard for apportionment has been shown. In fact, all

that it is possible to have considered has been shown. All evidence that can bear on the case is before the court. Complainant disavows fixing on any theory, or on the selection of any one thing as the standard of comparison, but has tried to show the facts fully. The instruction of Suffolk vs. Hayden has been followed.

At pages 148 and 149 of respondents' brief is considered the decision of Judge Wallace in Hall vs. Stern, 20 Fed Rep. 789, there being a quotation from Mr. Fowle's testimony at page 149, to show that the sales of complainant's machines decreased after the infringing period.

It was very unfair in this behalf not to call attention to the fact that the disk drill had then come into the market very prominently, and there is a decision as to disk drills by the Court of Appeals for the Sixth Circuit, concurrent with the decision of Dowagiac vs. Brennan,—see 162 Fed, Rep. 479, Dowagiac vs. Superior. In the case of Dowagiac vs. Brennan in the same report, at page 478, Judge Severens says:

> "This patent and the Packham patent, which is the subject of another decision made concurrently with this (Dowagiac Manufacturing Co. vs. Superior Drill Co., 162 Fed. 479), relate to one of the most important kinds of machinery employed in one of the great industries of the country—that of seeding grain. At the time when their infringement was going on, we are satisfied, from the records in the cases, the Hoyt shoe drill and the Packham disc drill were leading implements in the work of seeding grain in a wide extent of territory and have had their value attested by the numerous infringements which the patents have suffered."

On this basis the decision in the case of **Tatum vs. Gregory, 51 Fed. 447,** a decision by Judge McKenna, now Justice McKenna, is very persuasive and conclusive. Surely that case shows that the entire profits should be recovered in a case of this kind, and surely where the recovery of the profits is so insignificant as in this case, it should be supplemented by damages that would adequately compensate the complainant for its loss, and for that reason, the general evidence under the rule of law in Suffolk vs. Hayden has been resorted to.

The evidence of dealers has been brought in, and they point out the effectiveness of the operation of the drills they purchased. There were no **unpatented** drills in the market, as appears from the testimony of these dealers. They were called upon to select and pass upon **independently patented drills,** and it is only fair to assume that if the rights of the complainant had not been interfered with, it would have made a much larger sale than it did, because it would have been able to compete, not with drills precisely like its own, but with coiled spring drills which were greatly inferior to it. However, because its rights were invaded by the infringing structures, it was not able to compete so strongly with the coiled spring structures. It was obliged to devote its energy to competing with those that were making drills like its own.

The potential ability of the Dowagiac Company to supply the demand was complete. That appears from the testimony of various witnesses. The general testimony is submitted. The testimony of all of the witnesses show that the Dowagiac drill was the best, and it was the strongest competition in the entire territory. The territory was limited. It was covered fully by the complainant. It would have supplied the demand completely for this kind of drill, and would not only have sold the full numbers that had been sold by its

competitors, but would have been able to compete with the coiled spring structure and secure a share of that business had its rights not been interfered with.

In considering the question of damages, it is highly important to consider that there are certain large fixed expenses, "the overhead" expenses, like the expense of superintendence, the rent of plants, the supplying of suitable power, as engines and machinery; the supplying of a completely equipped plant for producing the goods to meet the demand; interest and rent. For instance, say in the grain drill business, before there is any profit it would be necessary to manufacture, say 2,000 grain drills, in order to pay these expenses. Under such circumstances, after these overhead expenses are paid, if an additional grain drill is sold, the realm of profits is reached. If two additional grain drills are sold, or 2002 grain drills is reached, the profits are twice as much as with 2001, so that the interference with the rights of the complainant, after its overhead expense had been paid and it had reached the realm of profits, so to speak, was very disastrous to the profit, because the profit on each additional machine sold was clear gain.

This should be taken into consideration in the matter of these infringements, and too nice a rule ought not to be applied under such circumstances, but the court should be very liberal in view of the increasing of these expenses caused by the trespass.

The proofs do not deal with presumptions at all. All of the facts are shown, and as we understand it, it is the duty of the court under such circumstances to protect the innocent and punish the guilty, or see to it that the loss is imposed upon the guilty party,—not upon the innocent, if any loss accrues on account of the wrongful acts.

The propositions advanced by respondents, at page 162 and 163, in bold face type, are very pecu-

liar. If a dealer should buy from the particular trespasser because he was handling something else then the trespasser goes free. To follow this matter up, if an infringer wishes to escape responsibility, he should not only sell the infringing structure but something else which the consumer would like to buy. Then again the same thing is urged by respondent about the purchasers of the infringing Kentucky drills. They bought them because Deere & Webber were handling them.

Now it is true that the purchasers of Dowagiac drills did buy them on account of the shoes, the feed, the position of the shoes, the way they slanted, and the general construction of the drill, its appearance, and its make-up. That is what results from the particular construction pointed out and claimed in the claims of the Hoyt patent.

The Dowagiac Catalogues are considered at page 192 et seq. There is nothing in these catalogues except advertisements of shoe drills. It would hardly be expected that anyone advertising a patented article would do it all from the face of the patent. Advantages of details have always been discussed, but the Dowagiac drill and its virtues are well known and well recognized by the respondents, who said that the opportunities of people selling to them would be greatly enhanced if they had something comparable with the Dowagiac.

The evidence as to non-infringing coiled spring drills is that they were all independently patented. That has been pointed out, and their independence has been made to appear and therefore the rule in the Pavement case applies.

The detailed testimony of purchasers and others, following page 200, is not of interest in this behalf and is wholly immaterial, further than it shows the desire of the public to purchase a drill comparable with the Dowagiac, or else an independently patented structure.

The Dowagiac Accounting Schedules have been referred to and speak for themselves and show the general condition of the Dowagiac Company's business. They are pertinent to be considered under the rule laid down in Suffolk vs. Hayden.

As to the statement that there is no liability in Canada, this is entirely unwarranted. This court held in **Gould vs. Cowing, 105 U. S.,** that the infringer who shipped there was responsible for sales of goods that he had sent into Canada. That is all that is sought here. The item is segregated. It can be taken care of by separation if it seems necessary. It is a small item, but the goods were manufactured in trespass of the complainant and were sold in trespass of the complainant, because the complainant was also covering Canadian territory. The Canadians really bought them at Minneapolis.

The defendant, Thomas H. Martin, took the stand and swore to it that a structure like the Dowagiac was approved and ordered by him. He should be held liable. He was enjoined, and in the event that the company proves to be irresponsible, he should be called upon to pay the damage. It was his personal acts that helped the matter along.

The items of conclusion stated by the respondents are not supported by the facts, or the record in this case, or by the law.

CONCLUSION.

Responding to the "Conclusion" of respondents, appearing at page 238 to 240 of its brief, the first paragraph of this conclusion complains because petitioner has not produced in evidence a conjecture as to what the respondents **might have sold** and **dealt** in. The answer to that is very clear. The defendant did not do it. See **McCreary vs.** Canal Co., 141 U. S. 459, where the court says,—

> "In such case it might perhaps be held that the plaintiff was entitled to stand upon the prima facie validity of the earlier patent; and that presumptively the defendant would be bound to pay a royalty to the patentee, and, having elected to make use of the plaintiff's invention, would be bound to pay a like royalty to him."

The question is a question of profit and the defendants, having chosen to deal in complainant's goods, are not entitled to a deduction because they might have purchased the patented goods of somebody else.

As to the second paragraph, the net profits clearly appear in both cases, as already pointed out.

As to the third paragraph, it is urged there is no need for an apportionment, but if there is the evidence is as complete as possible and all facts appear. The complainant has shown the proportion in its own affairs, and that gives a probable standard to measure by if it is necessary to apportion so far as the defendants' profits are concerned. The defendants handled no unpatented drills, and under Keystone vs. Adams, it would be improper to make estimates from other concerns. The proportions are clear in complainant's Accounting Schedules.

As to the fourth paragraph, certain it is that the proofs are complete as to the entire value of the whole machine as a marketable article; that is, it appears so far as it is possible for proofs to show it.

As to the fifth paragraph, as to the amount of profits complainant has lost, the proofs are fully submitted. Nothing more could be added. It appears that a limited territory was supplied, and was interfered with by the defendants along with others; that the same customers were solicited; and the same features were urged in making sales. These facts should be absolutely persuasive in view of the fact that no unpatented structure was on sale in the territory, and there were only patented structures in competition.

As to the sixth paragraph, complainant has shown its capacity to fully supply the demand. Its estimates of the demand, owing to the presence of infringing structures in the field, were defective for two seasons only.

The question of a seller and a manufacturer referred to in the next paragraph has been fully explained. It is only pertinent in considering the question of profits. If the defendants made no profits, they are obliged to account for none. If they made any, they should account for them. They should account.

The last paragraph calls for matters of conjecture. The facts are all offered. It is therefore urged by complainant that it has complied with the the rule of law laid down by this court in the case of Suffolk vs. Hayden. All the facts have been adduced. A voluminous record has been made, far exceeding the reasonable bounds of such a record, considering the quantity of sales and the number of machines involved, incurring a heavy expense to the complainant, the record comprising, all told, including patent copies, 1408 pages. Considering

the high cost of the accounting schedules and the other parts, it is fair to say that this record has cost in excess of five dollars per page.

It is submitted, therefore, that the complainant has shown to the very fullest extent that could be required in a case of this kind the facts involved. Any further proofs would be merely cumulative.

In this behalf, because of the wrong views taken by the Master, by the Circuit Court and by the Court of Appeals, that there was an apportionment required, and that complainant had provided no standard, this testimony has never been considered. It is very clear that if the same should be taken up to be considered at this juncture it would be a very onerous task, and phases of the matter requiring discussion could hardly receive adequate discussion in this court because of the large amount of time that would be required. The Master should perform his function. The matter then can be reviewed and sifted and the whole matter be adequately considered. If further proof is required he could indicate its character.

In this case the respondents, the infringers, have deliberately appropriated something " **like the Dowagiac,"** which was the "strongest competitor." They knew full well what they were doing, and have not proceeded in an innocent manner. The language of Judge Severens in **Brennan vs. Dowagiac, 162 Fed. 476** exactly applies. He said,—

> "In the present case the infringers conduct has been such as to preclude the belief that it has derived no advantage from the use of the plaintiff's invention."

Under such circumstances, the rule laid down by this court in the case of **Westinghouse vs. Wagner, 225 U. S. 604-623, Bk. 53 L. Ed. 1222,** clearly applies. This court said, at page 620 of the report,—

"6. But when a confusion does appear, —when it is impossible to make a mathametical or approximate apportionment,— then, from the very necessity of the case, one party or the other must secure the entire fund. It must be kept by the infringer or it must be awarded by law to the patentee. On established principles of equity, and on the plainest principles of justice, the guilty trustee cannot take advantage of his own wrong. The fact that he may lose something of his own is a misfortune which he has brought upon himself; and, if as argued, the fund may have been made by the use of other patents also, for which he may be liable in another case, it is again a misfortune which he has brought upon himself and an instance of a double wrong causing double liability. He cannot appeal to a court of conscience to cast the loss upon an innocent patentee and by judical decree repeal the provision of Rev. Stat. Sec. 4921, U. S. Comp. Stat. 1901, which declares that in case of infringement, the complainant shall be entitled to recover the 'profits to be accounted for by the defendant.'"

The complainant has adduced all proofs possible here. There is matter that will enable the Master to make some sort of an apportionment if such apportionment is deemed necessary. The combination character of the claim, however, seems to negative this.

All facts have been dealt with. No evidence in the nature of conjecture has been offered. It is again asserted that the case is too complex for this court, with its vast work, to be warranted in

spending the time necessary to do the Master's work which is of an accountant nature. The course pursued in the case of Westinghouse vs. Wagner, it is respectfully submitted, is the course to pursue here, and the case should be remanded with instructions to proceed according to law.

Respectfully submitted,

FRED L. CHAPPELL,
Counsel for Petitioner.

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Supreme Court of the United States

October Term, 1910.

In Equity.

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Petitioner,
vs.
MINNESOTA MOLINE PLOW COMPANY, et al.,
Respondents.

No. 494

DOWAGIAC MANUFACTURING COMPANY,
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Respondents.

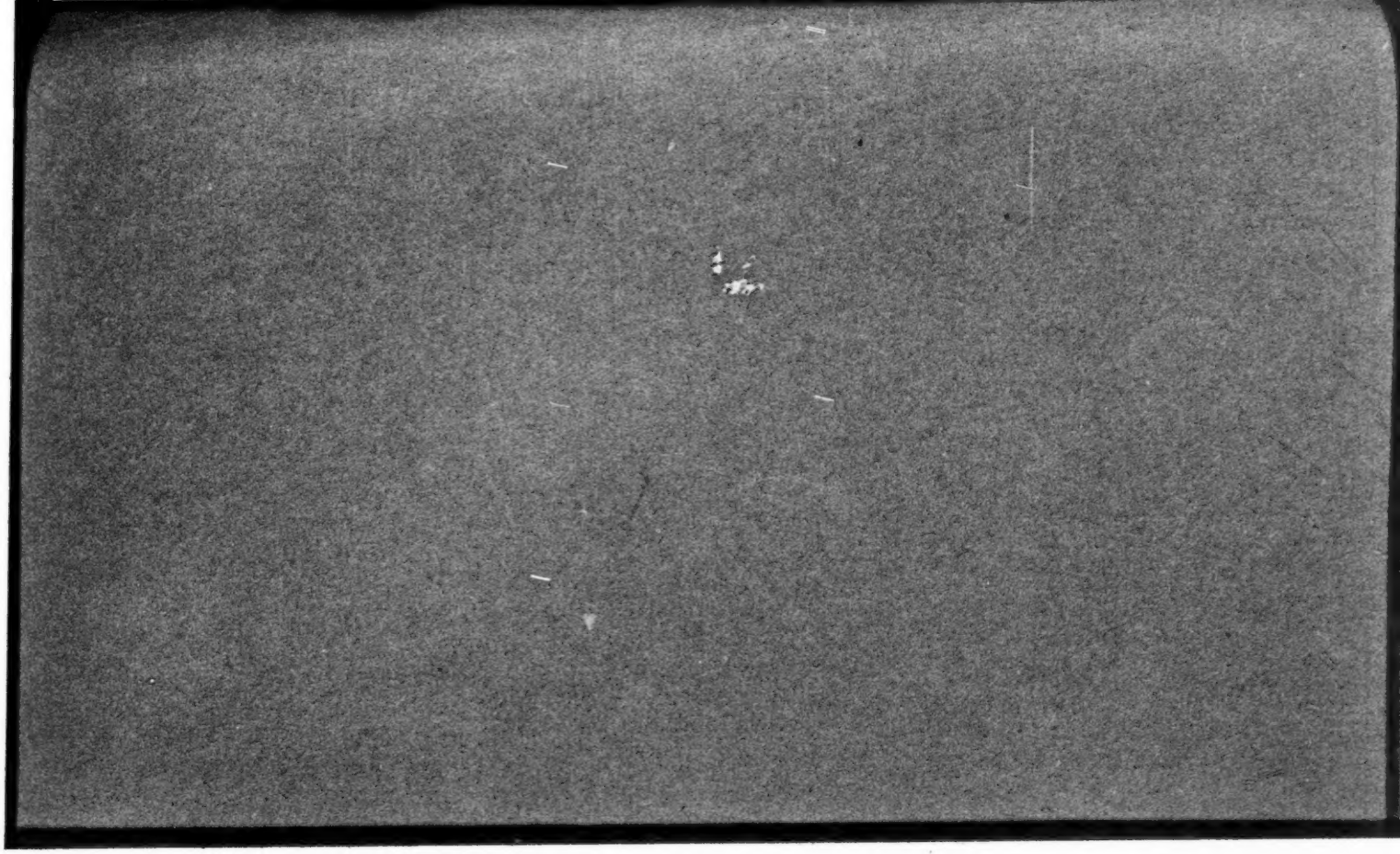
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Reply Brief on Behalf of Complainant-Petitioner

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REPLY BRIEF ON BEHALF OF COMPLAINANT-PETITIONER.

This memorandum is submitted to correct what appears to be misapprehension of the situation by the eminent counsel for Respondents.

On page 2 he calls attention to the fact that the

Hoyt patent is an expired patent, and that consequently there is no interest in the subject of this accounting. The fact that the patent has expired leaves the only subject of interest, the question of accounting, and the patent has been infringed outrageously under the protection of bond in many cases, and the accounting should now be allowed, else the Complainant-Petitioner has lost all.

One case where about seven thousand grain drills are involved in accounting is that decided by the United States Circuit Court of Appeals for the Eighth Circuit in **Deere & Webber Company vs. Dowagiac Manufacturing Co.**, reported at **153 Fed. Rep. 177, 82 C. C. A. 351.** This Deere & Webber case with the case at bar mounts up in accounting to about ten thousand grain drills. With a recovery comparable with that in the Brennan case, some thirty thousand dollars is the sum involved. The Brennan case, however, did not consider the question of damages as distinguished from profits, and with a recovery of ten dollars for each grain drill, which would be moderate, the sum of one hundred thousand dollars is involved, and Complainant insists that it has been damaged to the extent of one dollar per shoe, which would make the damage double that amount, or about two hundred thousand dollars.

Counsel for Respondents seeks to make it appear, under heading "Fourth," pages 20 to 24, that the matter of various prior patents was considered by Mr. Bond here, that were not considered in the case by the Sixth Circuit.

It has already been brought to the attention of the Court that Judge Severens, who wrote the opinion in the Brennan accounting case that was overruled by the Court below, also wrote the opin-

ion of the Court of Appeals for the Sixth Circuit in **Dowagiac vs. Brennan, 127 Fed. 143, 62 C. C. A. 257.** In this Brennan case, where the question of infringement was tried out, in place of there being a dozen prior patents referred to, there were sixty-seven domestic and foreign prior patents set up as showing the prior art, morethan five times as many. Judge Severens said at page 147 of Vol. 127, Federal Reporter:

> "We think this was a highly meritorious invention, and that the simplicity of the structure devised was one of its chief merits."

and further down in the same paragraph he says:

> "Some, perhaps all, of these advantages had, in a way, been supplied by the former art; but they had not, so far as we can see, been so completely gathered together or attained in so simple and useful a way."

The further discussion shows how completely Judge Severens had considered the question of whether the Hoyt invention is a true combination or merely an added element to some old device. Judge Severens, after thus exhaustively considering the invention in the infringement case ordering the accounting later, wrote the decision on the accounting in that same case in the Sixth Circuit, and it is submitted that he knew exactly what he was talking about when he characterized the invention as a true combination and an entirety.

When the Court of Appeals for the Eighth Circuit assumed that Hoyt had invented only a spring, then, of course, to be logical, it must insist that Hoyt apportion the profits and damages as to the spring. This is the underlying error of the

whole decision, and it is pointed out how the Court of Appeals for the Sixth Circuit had considered the same matter and reached the conclusion that the invention is an entirety, which is the thing overruled by the Eighth Circuit.

McSherry Manufacturing Co. vs. Dowagiac Manufacturing Company, 160 Fed. Rep. 948: In that decision, damages were specifically ruled against because of lack of evidence. That evidence was supplied in the Brennan case, and also in the case at bar, so that the case at bar and the Brennan case are exactly on all fours, so far as those propositions are conerned, and the other errors discussed all follow from the fundamental misapprehension of the nature and character of the invention.

Further reply to brief for Respondents seems uncalled for.

Respectfully submitted,

FRED L. CHAPPELL,

Solicitor and of counsel for Petitioner.